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SCIENCE FICTION



TANDEM 30p 22nd Edition

Galaxy

David Drake

UNDER THE HAMMER

Arsen Darnay

THE EASTCOAST CONFINEMENT

EDGAR PANGBORN

STURGEON • POURNELLE

Warwick, White, Christopher



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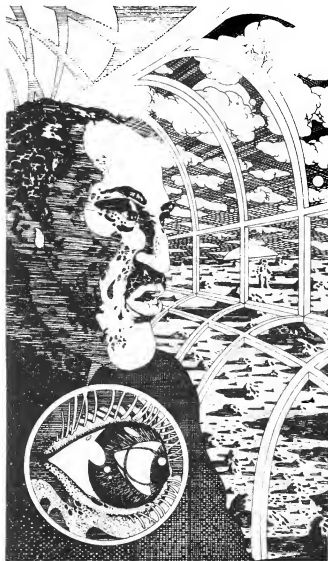
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OCTOBER 1974
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Galaxy

SCIENCE FICTION

MAGAZINE



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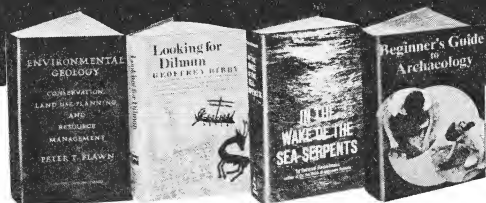
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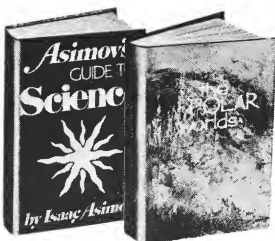
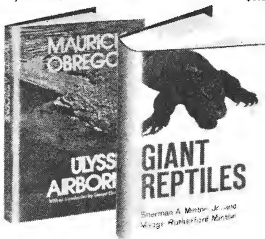
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THE EAST COAST CONFINEMENT

ARSEN DARNAY

"... and through the chinks
and breaches of our prison we
see such glimmerings of light,
and feel such refreshing airs of
liberty, as daily raise our ardour
for more." —Edmund Burke,
A Vindication of Natural Society

IT WAS the summer of 2008, a perfectly ordinary year, but for the sake of context you should know that it was the ninth year of New Harmony and seventh of the first and original penal reservation, the Eastcoast Confinement.

On July 15th of that year, at 7:19 in the morning, Berlin's Superintendent of Police boarded Luft-hansa's Flight 103 for the transatlantic trip to Eastcoast—and lest Karl Schmidt think that the Senate took his trip lightly, it sent a delegation of its senior members to the airport despite the early hour, who followed him all the way to the end of the ramp urging his objective, careful, and professional assessment of the American experience.

Karl Schmidt undertook the voyage yielding to pressure of the worst sort. He was fifty-nine and four years beyond retirement age, a fact that the Senate had at last turned to its advantage, suggesting through intermediaries that, should he continue obstinate and old-fashioned, the Senate could and would replace him with a man more modern in his outlook. But they hoped they wouldn't have to.

Schmidt stood before the senators, tall, grave, his long face somewhat longer than usual, his sparse grey hair combed back straight with a part in the center. He assured them that he'd do his best. "But gentlemen," he said at the end, "don't think that a single

visit will change my mind. Old dogs don't learn new tricks, and I've always opposed aping the Amis. Their solutions turn out to be tomorrow's problems."

Just then they heard the muffled report of an explosion somewhere on the airport grounds. Soon thereafter a voice announced yet another major sabotage attempt. Fortunately it had miscarried. With the exception of an old bus, no damage had been done to man or property.

The senators looked pointedly at Herr Schmidt, and he in turn shrugged his shoulders. The men would be caught. Justice would be done. A few hotheads, anarchists, and antisocials shouldn't panic society to adopt the drastic American solution. Schmidt understated the problem, of course. It was pretty grim in Europe. He himself sometimes felt desperation as he watched Western Society unravel before his eyes. But nothing could convince him that Confinements were the answer. The senators obviously disagreed. He saw it in their eyes. Schmidt is too old and set in his ways, they thought. Too bad he is a public institution in Berlin and difficult to shunt aside without political pain.

OVER THE Atlantic, in the perpetual sunshine of high altitude, Schmidt reflected on past and future.

Since his birth in 1949, the world had transformed itself under the

twin pressures of growing population and shrinking energy supplies. It had all turned out differently than he'd thought it would, in his early twenties, when world catastrophe had been predicted. Instead the world had carried on, creaking and groaning like an old weary ship, too stupid to know that it should sink. Atomic war had been avoided, but in its stead had come disorders all over the globe—not least of which had been the Chino-Russian war of '79, an incongruously bright period in Schmidt's life, for he had served in the International Intervention Brigade and, incidentally, had trained in the U.S. before the IIB was mobilized. Then in 1999 came the disaster some people said Nostradamus had predicted. It hadn't been a man-made holocaust but a geological happening that had reduced the islands of Japan to the Keys of Japan in a series of convulsions and had pulled much of California into the sea. Flooding on a scale unheard of since Noah had lightened the planet's human cargo, and men still cleared debris after nearly a decade. China was now once again the spoil of warlords who paid a kind of distracted allegiance to the ghost of the People's Republic. Russia was the Sick Man of Asia, preoccupied in putting down internal revolts. Europe had fragmented into thirty-five sovereignties, and the fragments had been gathered into the Union of Europe ruled

from the cantons of Switzerland, presumably safe from the sea. And America had become a theocracy of sorts.

The United States were now United Harmonies or New Harmony or simply Harmony. The regime called itself the New Puritan Secular Order. NPSO was the brainchild of a single man, one Ralph Waldo Gunnison, a tiny, withdrawn, wispy figure who'd spent forty years as an obscure teacher of Mental Science at night while repairing TV sets by day. He reached prominence in 1978 as leader of the Meditation Crusade. His object was simple enough. He saw preparations for the Intervention and proposed an alternative. Let the American people pray and meditate, and let the boys stay home. He theorized that Mind could grab hold of Substance in deep prayer and thus force its desire into Manifestation. Let Americans pray for peace on the Mongolian border. The force of Spirit could overcome the force of the Sword. This appealed to a population torn by Vietnam II (which was really Laos I). Gunnison became a pest in the Senate, organized protests against the Intervention, and predicted awesome disasters when the nation went off to war again. The natural disaster came in '99, two years after the Peace of Tchup-Peh. It coincided with a severe recession and other disorders. Gunnison became the first Harmonizer,

and the New Puritan Secular Order was launched.

Karl Schmidt had passed through the United Harmonies in 2001 on his way to Brasilia, which had emerged as a dominant force in world politics, inadvertently filling a vacuum created up north of it. International conferences now tended to be held—if they were held in the New World—in San Paulo or Brasilia. No one liked prudish Miami, prissy New Francisco, or drab Eastcoast. The changes had been visible then, but nothing like he expected to see now. Mind had indeed transformed Substance and made Manifest a world in Ralph Waldo's image and likeness. And the people loved it. The world wanted to emulate it. And people of Berlin lusted after harmony, tired of the social disease, the dissolution of order and meaning, that plagued all erstwhile industrialized countries—except America, of course.

Uniformed girls served lunch a little ahead of Schmidt's accustomed meal time. He picked at the food but ordered three bottles of wine anticipating a dry time in Eastcoast. Then he opened his slender briefcase and took out the briefing materials for a second perusal. After a while he laid the papers aside and shook his head much as he'd done some days ago in his widower apartment in the blue-plush armchair beside the empty paraquet cage by the window

where he did evening work. He couldn't reconcile himself to the notion of confinements. He wondered at the brazen boldness of the erstwhile TV repairman who'd dared launch a social experiment of unprecedented proportions and unpredictable consequences. Yes, Schmidt expected that consequences would flow from this sooner or later, despite claims to the contrary made in the Harmony brochures.

In such musings and under the mellow influence of rhenish, Karl Schmidt dozed off. A stewardess lifted his head and gently slipped a pillow beneath it without his notice. He slept soundly until the plane began its descent.

THE plane approached low over water. In the distance to the right brightly painted sailboats swayed unevenly in waves created by a small tugboat bound out to sea. The plane moved over solid ground. The wheels touched down and the engines reversed. The green blur became immaculately combed lawn, and up ahead large white billboards with blue lettering came toward them as they rolled forward. Soon he could read the signs. Meditation, Substance, Manifestation. Karl Schmidt had arrived in New Harmony. They taxied to the gate, and a voice announced the local time and welcomed them to Peaceful Abiding International Airport.

Schmidt gathered his hat and briefcase. He lined up with others on one of the five aisles of the jumbo and deplaned past the tired smile-masks of the girls. To him this was and would remain Kennedy International, the airport where he had arrived on his first trip to the United States, a young man mesmerized by dreams of adventure and tired of the Vice Squad in Berlin. He'd been bound for an Oklahoma training field of the International Intervention Brigade but had stopped a while in New York City to taste the forbidden fruits of MJ and Synthesex—legal in the States but, at that time, still prohibited in Germany. Schmidt was sure that no one smoked marijuana now in Harmony, and the orgasmic sex-drug that had been all the rage in the late '70's was surely taboo.

The letter of invitation had promised him a full-time guide and aide, a certain Richard H. Gilligan, executive assistant to Eastcoast's Commissioner of Police. Schmidt walked out through the mobile gate peering ahead at the people who'd come to meet the flight. A youngster in a bright red jacket with a blazer caught his eye. He had a pink, scrubbed, wholesome look, a reddish crew cut, a freckled face. The youngster saw Schmidt's searching look and moved toward him with the hesitant expectation of a man greeting a relative stranger. "Herr Schmidt?" "Mr.

Gilligan?" The young man's hand came forward and gave him a tight, manly grip.

"Welcome to Harmony, Herr Schmidt. Welcome to Eastcoast. You have a good flight? I sure hope you did; we want you to be happy with us. Get off to a good start, and all that. Herr Schmidt, have we got things to show *you*!"

The young man was tense, apparently, and he effused when he was tense.

"I am very curious, of course," Schmidt said evenly. "I'm sure it'll be interesting."

"I'll say!" Gilligan enthused. "You better believe it, Herr Schmidt."

In an attempt to ease the young man's tension, Schmidt said: "Perhaps we better make that 'Karl' from now on."

"Sure, Karl, anything you say, sir. Just call me Hank. Name's Richard H., you know. The H. stands for Henry, and that comes out Hank. I don't use 'Richard.' Haven't used 'Richard' since I joined the force. The boys kid you too much. They call you 'Dick Dick' and things like that. You know what I mean? Dick? Detective?"

Schmidt nodded gravely. "I understand you perfectly, Hank."

"This way, please, Karl, if you'll just follow me . . ."

They walked through an echoing hall. Schmidt noted the aseptic order and the unparalleled neat-

ness. He recalled a tourist poster he'd seen on the Kurfuerstendam: WE MAKE SWITZERLAND LOOK DOWNRIGHT DIRTY. VISIT THE HARMONIES. Nowadays, of course, it took little to exceed Switzerland in cleanliness. It was the hub of the European Union and something of a moral as well as aesthetic slum.

They moved toward the male side of the Customs line. Gilligan was pleased that the guest spoke such excellent English, but the old man's gravity disturbed him.

Gilligan was uncommonly aware of the great responsibility he carried. All civil servants in New Harmony knew of the Harmonizer's personal wish to see Order expand into the Zones of Decadence. In seven years of service, Gilligan had never had so obvious a chance to make his mark as now. Of the thirty-five states of Europe, Berlin was the best candidate. Berlin seemed most decadent of all European states as if, in gaining its freedom with East Germany's drop from the shrinking Soviet orbit, the city had lost its rationale for living. Now, for the first time, a Uni-Eu representative was here to see and listen. Many officials of much higher rank would address the visitor. Nevertheless Gilligan's role was superlatively important—Herr Schmidt's general comfort and well being were in his hands. He could have a striking influence on the impression the German gained during his stay.

Absorbed in such reflections, he shepherded the German through the baggage search. He paced nervously up and down outside the sanitation showers where green disinfectant streams bombarded every traveler. He led Herr Schmidt, now in a fluffy robe, to the cavitation baths where ultrasonic waves exploding under water blasted dirt from every pore. He supervised the louse-spray operation. And finally, he rushed about solicitously to help the Super find his microwaved clothing basket in the irradiation hall.

As they went out into the terminal proper, the German said:

"Are you sure we didn't miss a step in this process, Hank? It seems to me they forgot to pump my stomach."

Gilligan laughed nervously. To distract the German from the absolutely necessary sanitation requirements (after all this was New Harmony, not an underdeveloped nation), he pointed ahead and explained that the gentlemen up front in red jackets, such as the one he wore, were heads of various offices of the Department, and the tall, big man in their center (he didn't want to say "obese") was the Commissioner of Police for Eastcoast. Then, indicating the newsmen and the TV cameras, he expressed the hope that Herr Schmidt might address a few words to the waiting Media.

Schmidt felt both apprehensive

and amused as they moved forward. The Eastcoast police officials in their blinding red jackets grinned expectantly as Schmidt approached. They reminded him of salesmen at a convention. All the people in the terminal were neat and tidy to a fault. Despite his rather thorough cleansing, he felt dirty, as if the decadence of Europe still hung about him like a musty odor.

Warm, hamlike hands clasped his, and a huge, gross man bubbled his welcome.

To Gilligan's relief, everything went smoothly. The ComPol did the introductions going from man to man. They were all here, of course, Supply Logistics and Barrier Engineering and Legal and Psychological and all the rest, plus the Regional Crusade Rep and a man from the Lord Mayor's office—in short a VIP reception if Gilligan ever saw one. ComPol even remembered to give Dr. Fieldgreen of Adjustment Education something of a little build up. They'd decided, in laying out the Sales Strategy, to show Schmidt the VPLE test tonight even before his briefings tomorrow. Tonight was the first routine application of the technique.

Then Herr Schmidt spoke briefly to the press, and while Gilligan had hoped for more enthusiasm, at least Herr Schmidt said nothing negative.

ComPol walked them to the heli-

copter with his arm around Herr Schmidt's shoulder. Herr Schmidt seemed a bit discomfited by that, but then the ComPol couldn't help it; he was a regular glad-handing hugger of a man.

"Now, Karl," the ComPol boomed, "we've got it all laid out for you, old buddy, a little tour, a little nap, dinner, and then a night operation just to get you off to a good start. And all that before your visit officially kicks off tomorrow." He turned to Gilligan. "Now see here, Hank, you make sure Karl here gets whatever he wants. Any old thing! And if you need help, holler. Just give me a ring." He stopped and, still holding Schmidt by the shoulder, he let his arm describe a large circle. "Pretty now, isn't it, Karl. Every last bit of this terminal's new, built after the Flood, and those mosaics are our pride and joy."

The ComPol pointed to the excellent portraits of the Harmonizer all around. Each showed Gunnison in a classic pose—Meditative, Pensive, Executive, Lyric, and Tragic.

Schmidt was a big man, nearly two meters in his stockings, but he felt almost frail next to this giant. He glanced absently at the Harmonizer's five images but his mind lingered with anxiety over the prospect of dinner. The steaks would be five centimeters thick, no doubt, and ComPol would insist that he eat his raw. Ah, these Americans . . .

They went on, and soon they walked in sunshine. Then they crossed macadam and mounted narrow stairs to the copter. Down below ComPol waved an arm.

Inside the airship Gilligan introduced him to the pilot and showed him a good seat. And then, alone at last with Schmidt, he rubbed his hands and said:

"What's your pleasure, Karl? Shall we check you in at the hotel, or shall we take a look-see at good old EC?"

"EC?"

"The Eastcoast Confinement."

"Aha," Schmidt said. "By all means let's look-see good old EC."

Gilligan said: "Let'er rip, Brewster."

The blades began to turn. Moments later they were airborne.

THE scene below reminded Schmidt of a favorite Gunnison slogan: Let All Things Be Renewed. Whatever had been had been erased by floodwater, bulldozer, or crane. Schmidt saw what he'd already seen in countless newscasts—the prim geometricities of New Harmony. Neat-as-a-pin suburbs rushed by. Shiny red trolleys shimmered up through the foliage. Uniform small cars, all brightly waxed, beaded the highways. Schoolyards teemed with uniformed children (here vacations had been abolished) and shopping arcades with shopping women.

"So," Schmidt said, peering out. "So this is Harmony."

"Impressive, ain't it," Gilligan beamed. "Must look good to you, coming from where you come from."

Schmidt chuckled. "Oh, it's not so bad, Berlin. We struggle on in all our decadence."

"I guess you're right, at that. One gets used to it. Still, if it's anything like it used to be here . . ." Gilligan shook his head. "I remember how it was, Karl. Something else! Filth, pollution, mobs, weirdos! And headlines! Headlines like you can't believe your eyes! Jesus, how did we ever live?"

"How indeed," Schmidt said with a tiny smile. He kept peering at the scene below.

"I don't know why you folks put up with it over there," Gilligan said. "You don't have to. We don't. We've got the technology if you've got the will. We'll make a deal with you. We'll send the experts, you provide the labor. Anything for a cause."

Schmidt took his eyes off the landscape and turned to Gilligan. "The Clean World Crusade?"

A gleam of enthusiasm brightened Gilligan's eyes. "Yessir! That's the name of the game."

As they approached Manhattan island from the south, Gilligan turned tour guide and explained this and that. Schmidt only half listened. He sought for some sign of the old city, but there was precious

little to see. Massive holograph projectors set into the Hudson's banks simulated the ancient skyline, of course, this being tourist season. Gilligan explained how that bit of illusion was generated and at what energy cost. But through the ghostly image of the past, Schmidt saw only squat, uniform buildings. Immediately ahead of them, Gilligan explained, was Eastcoast's administrative center. Schmidt had inferred that. People walked about in the red jackets of Gunnison's civil service. He saw a formation on a roof top. Chanting? Praying? Doing yoga?

Governor's Island passed by on the left. It was still a Coast Guard station but now the service had been renamed. Sea Wall? Beach Sweep? Something like that. The men wore odd, pointed blue caps with yellow pom-poms on top. The Harmonizer took an interest in uniforms and was said to be a crack designer in addition to his many other superlative talents.

They flew over East River and left troubled waters in their wake. Garbage barges on the right moved toward some distant dumping ground much as they'd moved in the old days, but now the barges were painted white and even the garbage had a primly piled look. Then the copter rose to clear the bridges, and Schmidt saw the huge, shimmering bubble of iridescence even before Gilligan pointed to it with a dramatic gesture.

"There she is, Karl. Beautiful, isn't it. Just *look* at her! Just look at her *shine!*"

The Eastcoast Confinement.

"What you're seeing there," Gilligan explained, "is a dynaletonic laminar flow of lectromag radiation. Ozonified, too. Only its not just one laminate but about fifteen hundred plies, like. It's about four meters thick at the bottom, but it thins out on top. We generate it in a Lunac converter. Darn expensive, energy-wise. Sixty thousand kilo-cals per square meter of surface."

To the fifty-nine year old eyes of a policeman it was just a shimmering bubble, an extremely large bubble. It began around Forty-Second Street (if there was still such a thing) and extended away to the north as far as the eye could see. A blue-grey haze above it suggested smoke.

Passage through the barrier wasn't lethal, Gilligan said, but it caused temporary paralysis and extreme nausea followed by migraine. The field's strength increased geometrically with each breaching, and mass exodus from the Confinement was practically impossible.

Schmidt nodded. He understood all this, and Gilligan's explanation was superfluous. He wondered what went on inside. The human aspect interested him far more than the whizz-bang stuff. Americans knew and loved whizz-bang. But did they understand the sociology?

They made toward the bubble, approaching it fast. On the left Schmidt saw midtown Manhattan, the transformed Manhattan. He could see into the straight, uniform streets and inspect the low concrete buildings, each exactly the same as the other. The monotony was relieved only by large billboards. The people in the streets, however, were reassuringly people—women chatted in doorways and little children ran and bicycled about.

Then they left the city behind and flew parallel to the barrier for a while. At one point the ship began to vibrate and the copter veered to the left.

"Neutralizer," Gilligan said. "Brewster just turned it on."

They moved through. For a second, but only for a second, Schmidt felt a surge of nausea and pain at his temples.

THE Eastcoast Confinement could be divided fairly neatly into four quadrants. This was not a physical division, purely, although it was also that, complete with walls, towers, water or rubble-filled trenches, and all the rest. Rather, it arose from the tribal patterns within the reservation. In the east where the helicopter entered, Peacefreak held sway—and a bloodthirsty bunch they were too, Gilligan said. They faced the Maoling redcaps on the west and adjoined Ecofreak to the south. Panthermess had its domains on the north, but Gilligan

explained that Panther "fingers" extended well into the other territories. The Panthers were much in demand for the medical services they provided. Each tribe was further subdivided into so-called "packs," and each pack had its own "turf" and took part in the foodwar in a kind of rotation, like.

Gilligan wondered what else Schmidt needed to know by way of context when the German asked him curtly why none of this was in the literature he'd been sent. Gilligan replied that it was all of marginal interest compared with the technology. He worried a little because Herr Schmidt had begun to frown in an odd sort of way, and so Gilligan hastened to assure him that very ample sociological data were available and would be provided in the course of briefings tomorrow afternoon.

Schmidt frowned because he was thinking. Here it was. His oldest arguments with the Senate came back to him now. He had argued with the gentlemen politicians. He had told them what he had suspected—namely that inside the Confinements lived societies as legitimate and real as those outside. He had never been able to buy the NPSO propaganda to the effect that the people Inside were the dregs of the earth, incompetents, incapables, antisocials, degenerates—people, in other words, whose presence in the larger society represented a danger to the whole.

He knew it couldn't be that simple. He had cited the facts of life to the Senate. Even penitentiaries were organized into societies. What Gilligan had told him, and what he now saw, convinced him that he had been right.

Down below he saw a part of old New York—a jumble of buildings high and low, canyons and valleys and open spaces, real brick, cement, steel, and glass rather than holographic images. It should have looked like a grim urban desert, but it wasn't quite that. Everywhere he saw green, green of every conceivable shade—the dark green of bushes, the light green of new sprouts, the variable green of carrot tops, cabbages, lettuce, turnips, and other plants he didn't recognize. It seemed as if old Manhattan had been overgrown with vegetation. It greened on rooftops, streets, squares, yards, window-sills.

Next he was struck by the mass of people. He saw them everywhere. They swarmed down there in clumps and bunches. They sat darkly. They worked in rows amidst the green. Faces turned up toward them and hands waved. Schmidt imagined that he saw the people smile, but he couldn't be sure of that. They flew too high and a blue haze from a thousand chimneys obscured the view.

They moved over a mile-long, snaking queue and Gilligan pointed to it.

"That's a food line down there, a pack distribution point. And that over there, that clump of men with axes? See the red hats? Maoling slaves tearing up the pavement to make more strip farms. They cultivate every bit of land they can find."

"Maoling *slaves*?"

"Yep. That's the latest. In the last couple of months Peacefreak has started taking slaves, and our guess is it's spreading all over the Confinement. They work 'em twenty hours a day on half rations. Keeps the population down." Gilligan chuckled.

"Your food shipments . . .?"

"Not enough; not nearly enough." Gilligan chuckled again. "Let's face it, Karl. We're not trying very hard to keep 'em alive in here; but they fight back."

SCHMIDT meant to follow up on that remark, but his attention snagged on a weird, impressive structure that now detached itself from the haze. It was a dome topped by three slender needles of unequal length. The building stood in a large square of cleared ground. Masses of people filled the square with a dark dotting of heads. The structure seemed made of bits and pieces of waste material—glass, brick, steel, and plastic all welded together in a loose reticulation. The massive construct gleamed in the mixed light of afternoon sunshine and shimmering barrier. This was

certainly *not* old New York, nor was it New Harmony. This was something new and somehow alien, the expression of some kind of spirit; Schmidt sensed a kind of grandeur and defiance in this aggregation of materials.

He pointed to it. "And that?"

"That's Sophia Grande." The tone dismissed the whole thing in such a way that Schmidt, already alerted, grew suspicious.

"What is it? A church?"

"Our Lady of the Expansion."

"That wasn't in my briefing package either. What is this? Some sort of recent development?"

Gilligan shook his head and curled his lips in an expression of contempt. "Naw, not really. The structure is fairly new, but the myth is almost as old as the Confinement. They say down there that the barrier will come down some day and the people inside will inherit the earth. They say a woman will lead them, so they built her a church." The voice expressed scorn, and Schmidt had a momentary glimpse of a slightly different Richard H. Gilligan, Gilligan the hard-nosed cop. For a second there was silence filled only by the chopping whirr of blades. "Fat chance," Gilligan said. "Cold day in hell. We've got this barrier on a fusion plant, and that, believe me, ain't gonna run out of fuel." Silence. "Brewster, you better get up a bit. They're bound to take a shot at us." Turning to Schmidt, he

pointed down. "See that double wall and the water trench? That's the border between Peacefreak and Maoling. There. Those dark half circles? Catapult nests."

A religious myth strong enough to engender a public works built by a mass of people under some kind of tight coordination would mean the presence of real culture down below, something that these dregs of humanity were not supposed to possess. Schmidt set that aside for the moment and concentrated on the scene.

Near the catapult nests half-naked men worked feverishly. In seconds fire-darts rose up toward them reaching for the copter's bottom-mounted fuel tanks. But Brewster had lifted the ship in a right-leaning circle and the darts fell short. The ship passed almost directly over Sophia Grande as it turned, and Schmidt got a better look at the shining needles of the construct. There was something odd about the light reflection and the geometry of the panels laid on the needles' surface. What had seemed like panes of glass to Schmidt from a greater distance now resembled panels of some kind. Solar panels? But that, of course, was ludicrous. The technology was denied to these miserable inhabitants of this incredible, green ghetto. More likely small hot-houses used to grow food.

"How many people live in here?" he asked. The Eastcoast Confinement

ment looked far larger than he'd imagined from the literature.

"Eight million, give or take, we—"

"Excuse me, Hank; did you say eight million? The literature—"

"I know, Karl. The official statistics only list principals, and there are only two million principals down there."

"Principals?"

"I don't want to anticipate your briefings, Karl, but here goes anyway." Gilligan's tone turned tutorial. "Crime is a social phenomenon, not an individual thing. When the Mind embraces crime, it pollutes or infects all those who co-vibrate with it."

Gilligan turned to Schmidt to see if the German followed him. This was deep stuff, and Europeans were terribly skeptical. That's why the World Crusade made so little progress in the Zones of Decadence. But the German seemed receptive, and Gilligan went on:

"When someone commits a crime, we obviously find the co-vibrators, too, and in they go, the whole lot."

"I take it, then," Schmidt said, that 'co-vibrators' are . . . what? Husbands, wives, children?"

Gilligan nodded. "That's right, Karl. That's why we have eight million down here, although the exact number isn't known. Eight million's a guesstimate. The input is down to a few thousand a year, and they kill that many in the food-

war and the tribal raids. On the other hand, the birth rate . . ." Gilligan pointed to the copter's padded, stitched ceiling and shook his head. "You'd swear they're *deliberately* breeding. Goes to show you that they're antisocial. It's suicide to breed in a confinement, social suicide." A thought made him smile. "Gunnison says we might have to import people from the Confinement one of these days. Anti-fer is working too well on our side. Population on the Outside is down to a hundred and fifty million, but counting all of our Confinements, all forty-seven of them, the Inside population's pushing sixty and it's growing."

In the silence Schmidt pondered that relationship. The birthrate was up? In all other industrial nations, it was dropping at an alarming rate.

"Say, Karl, why not!" Gilligan cried suddenly. "Let's just do it right now. The official tour isn't till Friday, but you might as well get a look at the best population control device ever invented—and the oldest." He chuckled. "Brewster, let's circle by the Pile for just a sec, and then you'd better head out again."

THE words "foodwar" and "pile" did not appear in the literature, but Schmidt understood the reference. The population was supplied by helicopters equipped with neutralizers such as this one had.

Schmidt expected a large mob scene at points where the food was distributed . . . people trampling each other. But when they came upon the scene, he saw with the cold horror of a man who'd seen many things that it was worse than that. This was a real war.

Long before they reached the spot, Schmidt saw the busy movement of large transports far away behind the haze of smoke. They came in from the Jersey side in an endless line. Huge bales swung by cables from the bottom. The ships dipped, released the bales, rose up high again, and headed back.

The locus of the deposition was a large square surrounded by old brownstones. In an area five blocks square the ubiquitous green of the Confinement was conspicuous by absence. The copters came in and released bales in the center of the square, and it was indeed a huge pile of materials. In a circle all around it, defending the mouths of street radiants, men fought a fierce battle against attacking masses—but it wasn't a mob against a mob so much as organized military formations against organized defenders shielded from roof-top arrow fire and wheeled catapult darts by barriers built of broken crates, sacks of sand, and concrete rubble.

Brewster brought the ship to a hover, and they watched the fight. Below them a long line of women and children marched southeast in

single file. They carried crates on back, head, and slung on bicycles. Schmidt was reminded of ants.

"Peacefreaks again," Gilligan said in a tone of displeasure. "They dominate the distribution. Peacefreaks, see? You can tell by the yellow band they've got tied around their arms and the yellow shirts some of'em wear. If we were closer you could see the symbol. That's the Hundred and Twelfth Street Pack. Our records show that Peacies are in charge here sixty-four point two percent of the time. And they only have thirty-three point nine percent of the population."

"Are you sure it's point nine?" Schmidt asked.

"Absolutely," Gilligan said. "You'll see, Karl. We've got this technology down pat. Every transport brings back a report, and it goes right into a computer. We know all about these birds. Stats, everything. Nothing you have to invent for yourselves in Berlin. We'll come in and set it up for you free of charge. And we'll guarantee that it'll work."

"I'm sure it will, Hank," Schmidt said.

Gilligan looked at the German. He heard something in the man's voice. But the long face was serious, and the gray eyes were fixed steadily at the scene below.

"Nose down a bit, Brewster. Herr Schmidt might want to see the symbol."

"There's no need for that," Schmidt said. "Does it go on like this all the time?" He watched a salient of men in red railroader caps. They had stormed over the bodies of their dead and had cut and slashed their way past the barrier to a corner of the Pile. Immediately a column of women materialized in the feeder street, and men began to throw bales and sacks across the barrier.

"Twenty-four hours a day," Gilligan answered. "Not on the Sabbath, of course. We don't deliver on the Sabbath." Gilligan shook his head. He watched the battle with a professional eye. "Peacefreak's too strong," he said. He turned to Schmidt. "You're just in time to see us try a little innovation tonight. CompPol mentioned it to you. What we call an adjustment operation. Peacefreak's too strong and must be weakened, or else we'll get unification down there, and that's dangerous."

"Why so?"

"They've got some awfully smart people in there. Physicists, chemists, people like that. Brainy folks are often antisocial. They could invent a neutralizer in no time at all. But they can't massproduce'em—not so long as they keep fighting. So we keep'em off balance."

"What'll you do, exactly, tonight?"

"Peacefreak's too well led," Gilligan said. "That's why they keep gaining turf. We'll pick up

some of their chiefs on girly raids and . . ." Gilligan hesitated, looking for the word. "Let's say we'll give them a bit of education—that's permitted by the Constitution. Our stats people say four chiefs should do it. Peacefreak will drop down to around thirty percent or so."

"In population?"

"No." Gilligan gestured toward the battle. "In RD."

"In RD?"

"Resource Dominance. Control of the pile."

They watched in silence as the redcapped men were dislodged again by the furiously slashing counterattack of blood-drenched Peacefreaks.

Gilligan gestured. "Maoling can't do it. They're too weak and starving too fast for OPMB."

The initials were multiplying. "OPMB?"

"Optimum Population Mass Balance," Gilligan said. "You'll get all that in the briefing tomorrow. Have you seen enough?"

Schmidt nodded. Involuntarily he thought of a rat trap he had once seen. It'd been a box with a trap door. The rats fell down into the box and were slowly starved into cannibalism. As the copter rose and turned again, this time to the south, he made a note to ask about "girly raids" and to inquire how it was that "education" was "permitted" by the Constitution, and how much "education" would weaken the leadership abilities of

Peacefreak tribal chiefs. But for the moment he didn't want to pursue the matter. He was tired. His internal body-clock told him it was eleven at night, although here the sun still shot oblique rays into the smoky atmosphere beneath the barrier.

11

EMMANUEL Toronto Salazar Smith. Or Emmanuel Smith. Or Manny, for short.

Manny stared at the gorgeous three-color graffiti painted on the bathroom wall above the toilet that no longer worked and had never worked and wouldn't be allowed to work even if it did—the fecal matter was too precious to waste. What you didn't put on the crops you burned as fuel. The graffiti was a bold yellow swirl faintly resembling an E and a double S. A red border enclosed the letters, and two fat green dots hung over the rump-like curve of the last letter on the right. They called those dots the eyes of Emmanuel Toronto Salazar Smith. Or Manny, for short. Everyone knew Manny-Man in the ten-block turf where that symbol and those eyes warned interlopers to stay off Brinco territory.

He shifted his eyes from wall to mirror to help clumsy hands tie the bright yellow tie under the collar of a starched white shirt. A neat suit jacket hung from the rusty hook of a shower-curtain rod. Manny

flicked a bit of dust from its arm and then put it on. Neat and tidy. You had to be spotless out there or the squeeze would nail you before you even saw the chickie line. He had worn his raiding suit four times in his life, and this was the fifth time. It brought back memories of pain and a kind of fear that he never felt inside the Realm. It was the fear of his cells, the fear of his blood, the fear of his guts, the fear not of Manny-Man but of that which Manny-Man carried about with him, his bod. The fear was already beginning. It would grow slowly on the way to the chapel. It would grow greater and greater with every step of that endless walk south to the border. And finally it would be there screaming in his brain when he'd face the Fire. That's why he had delayed so long. But now the time had finally come. He couldn't stay Manny-Man much longer without a Queen. His eyes would be put out, covered over, and the Pack would sell him off to Maoling as a common slave.

He pulled the jacket down and pulled in his chin. Almost. He looked almost puritan. The face was a bit too Latin—dark and swarthy despite the camouflaging powder. They said that browns and blacks lived out there, and they did, but Manny knew and they all knew inside the Realm that browns and blacks didn't belong in Harmony. Slowly they brought them all in here and shoved them in through

the barrier locks, with the locks set at full force, so you'd get a good feel of what it was like, crossing the Fire. Manny didn't mind so much with the young men and women. It did them good to know what it was all about. But it hurt with the oldies and the children who rolled around on the ground twitching and spasming and throwing up the precious food they'd brought in with them in their stomachs.

He turned and swept the gold into his hand from the empty water tank of the useless toilet. He stared at the pendant for a second then put the whole mess into his pocket. He was ready to go.

In the Big Room lounging rubes looked up from chores. They were busy with whetstones sharpening swords or tipping arrows or dipping darts into steaming asphalt reclaimed from pavements lifted up to make more farms. They broke into derisive laughter and pointed fingers at him. They made noises in the cheeks and called him Neaty-toe and Sensy-wensy. But Manny sensed their approval now. There was a joy and glee in their abandoned yelping. They saw him dressed and they were reassured. He half suppressed a smile and gave them the thumb. At the door he turned.

"Tonight," he called. He fixed them with dark, brooding eyes whose whites were almost dark yellow and were marked by fine red arteries. They rested swords, darts, and arrows and settled down to

listen. "Tonight we'll have a Queen."

Manny ran down stairs. The rube cheer resounded behind him and echoed dully through the bare brick halls of the ancient building.

He walked through dark streets eying the walls. Competing graffiti had mushroomed here and there in the last day or so. His rubes had claimed they couldn't stop it. He suspected that some of them had painted signs, eager to be pack chief themselves. "You lost your stroke. Your queen's fled. You got no gripe, Manny-Boy." Manny-Boy, the rubes had said. Not Manny-Man.

Folk lined the sidewalks three deep getting a breath of night air. Eyes followed him and heads nodded in approval. They saw his raiding dress and they knew that he was Manny-Man again now that he'd resolved to take the Ordeal and do it again—go up against the Man's wall for a Queen. Back in charge . . . if he came back.

Manny didn't know how it had all started, the business with the queens. It lay very far back, several years, and in the Realm you lived one day at a time. Suddenly they were there. One pack had one and then another. Packs with queens did better in the war. The Virgin Mom had foretold this long, long ago, back when they were still building the engines and you could still go out of the Realm by subway. And then it was like this. You *had*

to have a queen. The people demanded it. And the only real queen was one you took from a chickie line. They waited for you. They had precious things hidden away in their clothing and on their body . . . things that the squeeze would catch at the official gates with detectors. The people said those precious things guarded the pack luck. Manny-Man had his doubts about that, but you never knew, and without the queen the rubes led poorly and the boys didn't fight.

He headed for the Brinco chapel aware that women detached themselves from the crowd and came in his wake like an ever-growing comet's tail. He saw it up ahead, the gleaming chapel, still only half finished. One spire of burning steel-glass-stone reached up above the dark, surrounding tentements. Four holy panels from Sophia Grande had been installed already to make power in the chapel's basement. They had lathes and drills and other machinery down there that the queens had told him to assemble. It was holy work indeed. One year, two years? The work moved forward slowly, but the time would come some wondrous night when neutralizers would open up the barrier in a thousand places and the folk would burst from the Confinement and rage over the land like a herd of hungry locusts following Her lead.

He stopped for a second and

looked at the construction—a wondrous design he'd made himself, modeled on the Grande. When it was done, the Lady would smile on Brinco. No other pack in Peace-freak would have a chapel so beautiful. Someday they'd call it Emmanuel Toronto Salazar Smith's gift to Her of the Expansion.

He entered the chapel and kissed the stone book's nipple by the door. "Mercy please," he murmured. Head inclined he walked toward the empty wood-cage suspended from the loft above the votive light extinguished now that no queen sat and prophesied from the cage. He knelt down, careful not to smudge the raiding suit.

Slowly he let the feeling rise in him.

It came readily enough. He felt longing and desire. The holy bed stood on the right. Four weeks had passed since she'd been here. He let the feeling expand from the particularities of that one girl into the universality of the Lady. Emotions choked him, and the feeling burst out in a sob.

"Queen Mother," he cried with lifted head sensing the people in the darkness behind him, feeling their emotion of dread at the agony in his voice. "Queen mother, precious bride and crone."

His voice rang clear with erotic ardor. It shivered him to say it.

"You saw fit to leave our midst as a slave to Maoling."

"Maoling," the women murmur-

ed in the back. The murmur grated with harsh anger. Yes. They looked at the right altar railing ruined in the last assault when a handful of rubes and men had died in that surprise raid weeks ago. Manny had been at the Pile with most of the men. The redcaps had ravished her away.

"Queen Mother Bride!"

His eyes filled with tears of longing. Emmanuel Toronto Salazar Smith had loved Betty Simple, Brinco's queen. He'd dreaded the time when she would leave him in the course of things to journey to Sophia Grande. But she'd been taken before her year was up. He sobbed. He almost saw her pouting in the cage. She always pouted and her oracles were mixed with dark obscenities. But she had clung to him always in sacred intercourse on Janenights when the people came with candles. He saw her lay on the holy bed raised high on carved stilts below the cage. She had a yellow bow tied in her hair and peace signs painted on her naked thighs.

"Queen of Expansion, give my heart strength," he sobbed. "Secure me in the fire of the wall. Make me invisible to the squeeze. Grant me a queen for Brinco whose lips shall call the future clear. Mercy thanks."

"Mercy thanks," the women whispered, and it sounded like wind passing over straw.

Manny bent his head.

Slowly a lone voice behind him

took up the Hymn in reedy tones. Then they all came in, a hundred Brinco fem-folk voices. The sound grew and enveloped him.

Lady High in gracious splendour
Grant us now the land beyond.

Homage to you now we render
To secure the Sacred Bond.

Jee, jee, jimeny high,

Jee, jee, jimeny low.

To secure the Sacred Bond

To secure the Sacred Bow . . .

MANNY-MAN Toronto Salazar Smith rose, turned, and passed out between the women. Their dark eyes rested on his powdered face in serious, questioning expectation. At the door a deaconess gave him the wooden flower painted white and affixed to the end of a carved stick. Four times he'd held the stick; this was the fifth time. It would secure his passage through friendly and hostile territories despite the puritan threads and the yellow tie.

Soon he left behind the last of the yellow-red graffities with the green eyes of Manny-Man. He marched with fixed gaze, flower stick held high. The people made way for him and murmured "Mercy thanks." Then later he entered Ecofreak land and they said nothing at all but let him go from pack turf to pack turf toward Forty-Second Street where lately Eco's had breached another wall and let raiders use the gap for a decagram

of gold. The gold was in his pocket. Five rings, two armbands, forty-five teeth, and a pendant. He wasn't sure about the pendant. That might be amalgam.

Security tightened around Forty-Fifth Street. Ecofreaks knew they had a good thing. This was supposed to be one of the best gates through the Fire, a low-pressure spot in the shield. (They all claimed that, of course, they all did, and it was never true.) This pack had no need to fight on the Pile every eighteen days. Not when you had a gate. They had the gold and bought the bread. Checkpoint followed checkpoint. Each had a little scale and he had to empty his pocket. Each time a shrewd man fingered the pendant.

"That's amalgam."

"It may be that, but I'm a gram over."

"So you are, Peacy, so you are."

They examined the seal on the bottom of the flower-stick pressed there by the Virgin Mom of Sophia Grande with a ring on melted poly-ethylenc. Then they waved him on. These men said "Mercy thanks." For them it was a business. They didn't take sides.

At the last stop they took his wealth and gave him directions.

"Down into the sub over there, three flights. Then you go along the rails to the right for eighty meters, give or take. And then you'll see a cave-in on your left with a narrow break to the left of that. Through

there. In a bit you'll see the shimmer. Good raiding."

To them it was all routine.

"How much for a torch?"

"Four nails."

"Jeez. You rubes know to squeeze."

The men shrugged.

Manny-Man gave up four precious cigarettes and they lit a torch for him from one stuck in a crack in the wall.

Emmanuel Toronto Salazar Smith set out with a torch in one hand and a flower in the other down dark stairs to get a queen for Brinco Pack lest the Lady frown and the pack fail in battle on the Pile. In a way he held their future in his hand.

THE dinner in Karl Schmidt's honor was drawing to an end. Servants served ice cream to the guests who sat in bright red jackets around the oval table in a private dining room of the Crusade House. On the walls hung tapestries with slogans.

The Special Assistant to the Lord Mayor had the word.

"Herr Schmidt," he said, "you ask about the philosophical basis of the Confinement. Let me put it like this. The basis is mercy and freedom. The guidance laid out in the Harmonizer's Science of Morals is clear. He writes, 'And make no mistakes about it. Punishment is presumption, but nonviolent withdrawal is permitted.'"

The Lord Mayor said: "That's a mouthful."

The youthful Regional Crusade Rep broke in eagerly: "What Hendricks is saying, Herr Schmidt—"

"What I'm saying," Hendricks asserted, "is that we have eliminated punishment. It no longer exists."

The Lord Mayor: "It's gone, it's gone."

The City's Secretary for Perpetual Harmony leaned over his ice cream dish and gestured with an index finger: "The Constitution expressly forbids punishment, and we abide by that."

"But we have a Cosmic Right to live in harmony," Hendricks augmented.

The Lord Mayor: "There you have it."

Hendricks: "We may withdraw nonviolently."

The Secretary: "And we've done so, in effect."

The Rep: "While we allow the dissidents every freedom within the boundaries of the Confinement."

"They live in bliss with their co-vibrators," Schmidt said.

"All have the same rights, of course. Principals and co-vibrators. We make no distinctions whatever."

The Lord Mayor shook his head: "None! None!"

Hendricks continued: "They have their lives, and we have ours, and that's the Lesser Harmony."

"And the Greater?"

"That'll come in time. We have a program we call Gradual Life Support Cutback."

"GLSC," the Rep threw in.

"Which is being implemented as their indigenous agriculture improves. Ultimately—"

"Pardon me, Mr. Hendricks, but do you honestly expect eight million people to live off agriculture on a part of Manhattan?"

"We don't play numbers games around here, Herr Schmidt," Hendricks replied. "Eight million, two million, a hundred thousand. As the Harmonizer has so aptly written, 'All things reach their appointed level.'"

Schmidt said: "With all due respect, Mr. Hendricks, but back home we'd call that genocide."

The Secretary for Perpetual Harmony broke the brief, awkward silence: "Herr Schmidt, GLSC relies on *gradual* adjustments, natural attrition. We expect the birthrate to drop inside."

"But now it's rising."

"A temporary phenomenon, Herr Schmidt."

The Lord Mayor nodded: "Temporary, temporary."

The Regional Rep explained: "We believe that the rate of growth shows signs of declining. Our experts on population dynamics expect that once a certain point is reached, the birthrate will take a sharp dip."

"It seems to me that point should've been reached long ago."

The Secretary shook his head: "Under normal circumstances, maybe. But these are antisocials."

"Antisocials and their co-vibrators, don't forget," Schmidt said.

"Yes, of course."

"Look here, you guys!" The booming voice was the ComPol's. He had been silent too long. "Karl, here, he's a practical man. Let's not bend his ear with philosophy and stuff like that. The Confinement *works*. That's where I come out on this. Hey, Karl, how about a little steak sauce. The rest of us are on ice cream, and you haven't even touched your steak."

Schmidt waved a hand defensively. "My stomach is still in Berlin."

"Hey, that's a good one," ComPol chuckled. "His stomach's in Berlin. Karl, that's what I like about you, your sense of humor. Say, you won't mind watching tonight's operation, will you? Time change, and all that?"

"You've convinced me that it will be interesting."

The Rep broke in eagerly: "We finally think we've solved a big problem, Herr Schmidt. The Commissioner has said it well. The Confinement *works*, but—"

Hendricks cut in: "But that doesn't mean that we don't have very real practical problems."

The Lord Mayor: "Very real."

"For example?"

The Secretary took a turn to elaborate: "I think that all of these

gentlemen would agree that there remains a significant danger from within."

"From within the Confinement?"

"Yes."

"The Ghengis Khan threat."

The Rep began: "What Mr. Hendricks means—"

"I mean the danger of unification."

The Lord Mayor nodded gravely: "Ghengis Khan, yes!"

ComPol took the floor: "You've got to see it like this, Karl. There's a lot of real smart alecks in there, too smart for their own good."

Schmidt said: "I believe Gilligan mentioned that to me. He fears that neutralizers might be invented and—"

"Hell, we assume they've done that," ComPol said. "We're worried about mass production. They might start that if they ever unify under some Ghengis Khan."

Hendricks took the lead: "In practical terms, Herr Schmidt, we're limited in what we can do. The Constitution is clear on the subject, and so are the Harmonizer's writings. We may withdraw nonviolently, but we can't meddle with their internal politics."

The Lord Mayor said: "No. That would be wrong, that's for sure."

Schmidt looked around and addressed them all: "Isn't that a little incongruous? You lock up a third of the population but you scrupulously avoid interference on some Constitutional basis."

"Herr Schmidt." Once more the Secretary filled a silence. "I think all of us would object to the phrase 'lock up.' Sequestration is the term we use, and it is far more descriptive. 'Locking up' implies a form of punishment. We don't punish in New Harmony. You might, in Berlin, but we don't deprive people of their Freedom. We merely sequester them into their vibrational community."

The Rep came in eagerly: "The writings are quite explicit on the subject. Why, in Moral Science the Harmonizer writes—"

"Farley," Hendricks broke in, "Herr Schmidt is not all that interested in the writings, I'm sure. But now that you bring it up, the quote you're groping for is: 'The just seek justice and the base baseless. Let us therefore establish a place of justice and a place of baseless, and let Mind itself *sequester* the wheat from the chaff.'"

The Lord Mayor agreed: "Well put, well put."

"Nevertheless, you *do* want to interfere."

"We merely want to ensure that the Sequestration remains effective."

"Why don't you let Mind do that?"

The Rep eagerly threw in: "The Harmonizer writes: 'Mind works through Man as Man works through Mind.'"

"So you have to give Mind a Hand?"

The Secretary for Perpetual Harmony smiled painfully and said: "I see, Herr Schmidt, that your sense of humor is very active, indeed. You sense a contradiction here, but the conflict is more apparent than real. Precisely put, the doctrine goes something like this: The 'hand' you refer to is actually a manifestation of Mind. Farley's quote should be understood in its poetic, not in its metaphysical sense. It appears in the Harmonizer's Science of Aesthetics."

COMPOL HAD grown restless again: "As one practical man to another, Karl, let me say this. We're lucky as hell that the boys in there go on girly raids regular as clockwork, or we'd have our work cut out for us."

"Tell me about that. The phrase intrigued me when Gilligan used it this afternoon."

"Girly raid?"

"Yes."

"Well, it's like this, Karl. When you're dealing with weirdos and crazies, there's always something like that—something you can't explain, and the girly raids are one of those things. The big studs in there, the chiefs, they have to kidnap their girls from the Outside. It's a kind of . . . of a . . . an act of what-you-ma-call it . . . machismo, like. I mean, those guys go through agonies coming and going, and I guess it makes them look pretty big

in the eyes of the crowd inside."

The Rep interjected: "Of course, there is a more sophisticated explanation—"

"Which is," Hendricks continued, "that there's a differential moral pressure on this side of the barrier that pulls the chiefs. As it says in the Science of Morals, 'The Victim is by far the stronger in such cases, acting like a magnet on filings.'"

The Lord Mayor: "Apt, apt."

The Secretary said, pointing with a spoon: "I see that you're puzzled, Herr Schmidt. What Hendricks means is that—"

"I was coming to that," Hendricks said. "The theory is simply that we have a certain number of unidentified co-vibrators out here who attract the chiefs."

"Let me see if I understand you," Schmidt said. "You're saying that the girls—some girls—wish to be kidnapped and so—"

"That's evident—"

"—they get what they deserve?"

"Where *I* come out on this," the ComPol said, reasserting the practical again, "is that they *come*; and that gives us a chance to educate them."

"Gilligan mentioned that. What do you do? Use some kind of drug?"

"Goodness no," the Rep cried.

The Secretary was also shocked: "That would be clearly illegal."

Hendricks: "A breach of the Constitution."

The Lord Mayor: "Breach, that's the word."

ComPol said: "Karl, let me tell you what we'll be doing tonight and in the future. We'll vipple the guys and send them back in."

"'Vipple' stands for Victim-Perpetrator Life Exchange," Hendricks explained.

The Rep chimed in with: "It's an educational tool, pure and simple."

"It ain't simple!" ComPol protested. "It takes up three floors of a good-sized building. And it's damned expensive, too. But it should work. The boys tell me it'll work. It's like this, Karl. Used to be, we lectured to the chiefs. For one day. That's all we're allowed. We used to lecture them till they were blue in the face. But that didn't work. Now with vipple, we've got 'em."

The Secretary held up his hands. "Gentlemen, gentlemen. You're going too fast for Herr Schmidt. He looks from face to face and I see that he is confused. Let me explain, Herr Schmidt. VPLE is a new discovery, a phenomenal new device invented in our penal laboratories by Dr. Fieldgreen."

ComPol: "You met him this afternoon."

And the Rep: "It's a consciousness expander."

Then Hendricks: "Let Herb explain."

"What it does, Herr Schmidt, is this. It transfers the experience of one person to another, and vice-

versa. Clearly you get a tremendous expansion of consciousness."

"That's possible?"

"We've done it!"

ComPol added: "Works like gangbusters."

The Rep exulted: "It's a real breakthrough."

Schmidt shook his head. "I don't see how that would serve your purposes. How will that incapacitate the chiefs? That's your object, isn't it? To destroy their effectiveness?"

Hendricks pushed his ice cream dish aside and said: "Whatever makes a chief a chief in there, it must be his superb adaptation, right?"

"All right," Schmidt said. "I would agree."

"Adaptation's a state of mind, right?"

Schmidt shrugged. "All right; go on."

"With VPLE, we expand the guy's consciousness. That *changes* his state of mind."

"Right," Schmidt conceded, "but it doesn't follow that he'll be maladapted. More likely, he'll be better adapted."

"Not so," Hendricks said.

"He loses his charisma," the Rep interjected, "and that's what these boys rule by, in there."

"They become much more 'reflective'—that's the phrase." This was the Secretary.

"We've got proof in the case of Abe Herzenberg Sultzzy Chico Kid."

The Lord Mayor nodded: "Yes, the Kid."

"Abe Herzenberg . . .?"

ComPol saw his opening. "We've only vipped one guy so far. Abe Herzenberg Sultzzy Chico Kid. (All of these guys have these long names—more machismo.) We knew it'd work from the animal experiments, but we had to have a test case—for the legality of it. So we vipped the Kid, and then we had some friends of ours file a friendly suit."

The Rep: "It went all the way to the Celestial Arbiters."

Hendricks: "And the case held. VPLE is a legal educational tool."

The Lord Mayor: "Legal's the word."

"But what I wanted to say, Karl, is that it worked on this Sultzzy Kid. Afterwards he was kind of a zombie, like, and so was the victim."

For a second there was silence. Then Schmidt began: "So you have a new technical innovation that, in effect . . ." He stopped. Richard H. Gilligan had appeared at the door of the dining room. "It appears, gentlemen, that my guide is ready to take me from your midst."

Heads turned. Then Hendricks said: "Herr Schmidt. Let me try to sum up the Lord Mayor's thoughts about your visit. The people of Berlin and the people of the United Harmonies have a long and friendly history of mutual cooperation."

We'd like your city to be the first on the Continent to try a confinement. Conditions warrant it. Your people want it. Your Senate would vote for it if only you withdraw your opposition. The Mayor has that assurance from the delegation that came to visit us last year. The time for action is now, and we are at your service."

The Lord Mayor said: "My sentiments, my sentiments."

The Regional Rep: "Such a venture would cement our deep cultural ties."

And the ComPol: "Karl, old buddy, believe me, it's good to know they're behind that barrier, all nicely sequestered up, the whole damned lot of them, safe and secure."

Finally, the Secretary for Perpetual Harmony: "A toast, gentlemen. I give you the Berlin Confinement."

Schmidt gave his glass of carrot juice a tiny lift. But he didn't drink to what he judged was pious, ignorant, official genocide, no, not even to be polite.

THEY drove out of the Eastcoast Police Compound over a ribbed metal surface that made talk difficult in a vehicle Gilligan had called a van but Schmidt would have described as a station wagon. He sat in front between Gilligan and a uniformed chauffeur.

It was nighttime in Manhattan.

Schmidt found it odd to drive

through what seemed to him more like a military reservation than a city (with its low concrete buildings, virtually empty streets, and its "buttoned-up-tight-for-the-night" atmosphere) while all around flickered a luminous replica of old New York. Sometimes the streets projected by the holograph generators didn't coincide with the real, the new, the neo-puritan road, so that the van drove through buildings, statues, lamp posts.

When they got off the ribbed street and the high-pitched hum stopped, Gilligan began to describe the operation that lay ahead, but Schmidt only half listened. His mind still mulled over the dinner conversation.

Gilligan said that catching a chief was relatively easy once you knew the exit points he used. The barrier could be crossed at any point, of course, but the chiefs always came out underground to avoid detection. The surface was constantly patrolled, and it was easy to pick them up as they spasmed on the ground. It took the better part of half an hour to recover from passage, and the chiefs liked to do so in privacy, of course. Now up ahead was an underground breach the Peacefreaks liked to use because it was near their territory, and that's where they were going now. The Department had set up an observation room from which the breach could be watched through hidden cameras. Once a chief was spotted,

detectives would follow him until he made his move against a girl. Then they'd hustle him off to be vipped.

Gilligan asked Schmidt if he had been told about VPLE, and the German said yes, he'd been told a little something. Gilligan then launched off into a description of that. He knew a lot about the animal tests that had been conducted and the technology—work, he said, that had grown out of experiments with brain wave control in the sixties and seventies. But when Gilligan noticed that Schmidt was pensive, he stopped, and they rode on in silence.

Schmidt thought about RD, OPMB, GLSC, VPLE. His detailed briefing package had made no mention of these things. Nor had there been mention of complex social arrangements inside the Confinements. No. Nor mention of a religious movement that had throw up a truly intriguing, original building. Despite its humble materials and seemingly random construction, Sophia Grande (even the name had stuck), reminded him in an odd sort of way of the cathedral in Cologne. Our Lady of the Expansion. It darkened his mood to think about that. Was it possible that an authentic new religion had been born inside the Confinement—a new inspiration that would die along with the people when Harmony carried out “gradual life support cutback”? GLSC. Schmidt imagined a conversation

between Harmony officials. Said one: “Let’s glitch the bastards.” Said the other: “Yeah, let’s glitch ‘em, let’s glitch ‘em good.”

On the left people in spic-and-span clothing streamed out of the lighted rectangle of a large concrete building, a Meditation Hall. They were gone in a flash as the van drove by, but they set Schmidt to thinking about the people on the Outside. Not the officials, the little people. How did they feel about the Confinements? America had become a remarkably quiet and placid place since the so-called “Renewal,” that period of a year or more after Gunnison’s take-over. They were said to resemble the Japanese of antediluvian times. (The Japanese resettlements on the Asian mainland were areas of turmoil, passion, and disorder. Class war raged. The Japanese had settled once and for all the argument about an unchangeable national character. There was no such thing.)

Americans operated the great industrial plant—for it remained great even after the disorders of 1999-2000. They farmed, raised cattle, moved goods, educated, communicated, and entertained themselves. But Harmony was not a world power, as the U.S. had been. Its financial and military tentacles were withdrawn and folded in a prim, clean lap. The striving, hustling, bustling spirit had gone out of Americans. All that they pro-

moted now was the Confinements. Was that a clue? Had America withdrawn into itself to nurture a new creation? Or was it caught in the grip of a fatal disease? Was American placidity a kind of grand, national guilt?

The car slowed down. Abruptly they were out of the holographic ghost town. The geometric uniformity of the real Manhattan lay behind. The scene resolved into an ancient neighborhood of half-ruined brick buildings, dark in silhouette against the barrier's shimmer. The road ahead had narrowed, and in the headlights of the vehicle Schmidt saw the huge buckled concrete slabs of an impassable street.

"We go on foot from here." The car door opened and a light came on in the cab of the van. Gilligan held the door. "You're absolutely safe," he said. Schmidt groaned a little as he got out. Ancient bones. "We've got this whole place staked out with men." Gilligan gestured in a wide circle with an electric torch Schmidt hadn't seen him activate.

Schmidt stretched. He was still tired, despite the good snooze on the plane and a nap in the aseptic hotel room. The barrier was very near. It much resembled a rainbow, but it was a dome of a rainbow, not merely a strip. Tiny fireflies of current pulsed amidst the colors. It was beautiful in a way.

He followed the circle of Gilligan's light on the broken pavement, and they walked into the

darkness of brick.

How the barrier was generated, the cost of generation, how deep it extended underground, and how high into the sky—all that had been in the brochures. They knew all about the deleterious gynomax expansion but nothing about the Lady of the Expansion.

The abandoned old-fashioned buildings turned out to be part of a buffer zone between the barrier and the rest of the city. In a moment they were through it and emerged into a no man's land. Gilligan hesitated—then moved to his left in a diagonal line across the razed terrain. In the jerkily moving ball of light, Schmidt saw bits of broken brick pressed into the clay, pieces of reinforcing bars dark with rust, and other litter. He had a wry thought. All this was a bit below par for the famous tidiness of New Harmony. Immediately up ahead the barrier seemed to rise right out of the ground.

Suddenly Schmidt stopped. "Hold it a minute, Mr. Gilligan!"

Gilligan turned and his light turned with him on the ground.

Schmidt gestured. "Who're they?"

The light moved and picked out a girl on the edge of the desolate, barren terrain. She stood near a brownstone that had been cut in half by the giant bulldozer that must have cleared this strip of land. Behind her a bathtub hung like a whitish blob inside the shell of the

building by a pipe. The girl stood very erect, very still. Her blond hair fell straight down. She wore a simple skirt and blouse. Neatly neo-puritan. Beyond her stood another girl in the same attitude, and beyond her yet another, and so on until the desolation curved away out of sight.

Schmidt looked at Gilligan who hadn't replied. The young man fidgeted in obvious discomfort.

"Well?"

Gilligan hesitated, unsure of himself. Like every other official of the New Puritan Secular Order, he was an avid student of the Harmonizer's writings, but he didn't fully understand the doctrine of differential moral pressure that people used to explain the Vigil. To Gilligan the Vigil had always seemed a straightforward protest movement that should be put down without much ado, and that's how his superiors would behave, he thought, if they were free to act. But somehow a protest movement was not compatible with the doctrine of differential moral pressure. Anyway, Gilligan was confused.

"Girls," he said lamely, unable to delay any longer. "Just some girls."

Schmidt raised his eyebrows at the evasive reply. Girls they were, so much was established; but he didn't need Gilligan to tell him that. This was one hell of a lot more than girls. This was a formation of girls. The girls stood spaced out at

five meter intervals. All stood in the same odd, almost reverent pose, Schmidt said:

"Surely that can't be all? Come on, Hank. You have such nice initials for everything that I don't understand. Tell me what the letters are."

Gilligan smiled painfully. "That's the VOP," he said. He added: "If you must know." When Schmidt raised his eyebrows again, he went a step further: "The Vigil of Protest."

"Oh? I thought you people lived in harmony. All the malcontents are supposed to be behind that thing." Schmidt gestured at fireflies in a sea of color.

Inwardly Schmidt was pleased. Maybe the America he knew and loved hadn't died altogether. There was some hope.

Gilligan squirmed. "It's the Constitution," he said. He paused, struggling to find the right expression. "Oh, gee, it's complicated. You see, Karl, they're not organized. They never speak. They come alone; they leave alone. We've got agents tracking the lot, but we've never been able to prove conspiracy. So it's not a protest under the Constitution." Pause. "God knows *why* they do it . . . Of course we have a theory."

"Differential moral pressure? Unidentified co-vibrators?"

"Oh, you've been told."

"Enough to understand, altogether enough," Schmidt said. "Of

course no one bothered to tell me about the . . . VOP. Why do they call it the Vigil of Protest?"

"*They* don't call it anything. *They* just come and stand here. The people call it that. It's just a phrase that's got about. We'd better be going, Karl."

"Just a minute," Schmidt said. "How long has this been going on?"

"As long as I can remember. I guess ever since the barrier went up. That'd be seven years."

"So not *all* the people support the Confinement—on the Outside, that is."

"I wouldn't say that," Gilligan protested. "Not a bit. Like you said, they're co-vibrators. They are attracted to the baseness." Gilligan gestured toward the barrier. "They rightfully belong in there. Could we go? This is the time they always start coming through. I don't want to miss the action."

Schmidt hesitated, but then he gave up, nodded, and followed Gilligan's light once more toward an unmarked hole in the middle of the razed terrain. Once it must have been the entrance to the subways that no longer ran.

They went down and then, led by Gilligan's light, they walked along abandoned corridors amidst cobwebs and litter to a small room crowded with equipment. Two lounging detectives rose and were introduced. Then Gilligan pointed to a large screen set against the

wall. It showed the sparkling light of the barrier edged on two sides by what looked like a broken wall. They sat down to wait for a chief.

THE chief was a long time in coming. At the moment he—that is to say Emmanuel Toronto Salazar Smith—sat on a rock in a cavelike enclosure with his hands around his face. He sat on a white handkerchief that he had spread out to protect his suit. From time to time he glanced up at the shimmering barrier that filled the eave with dim light. He glanced especially at the fireflies in the color, measuring their intensity.

On two successive earlier tries, he had found the Fire too hot. Three chiefs had gone ahead of him, and it being the peculiarity of the Fire to intensify when someone passed through it, Manny-Man had had to wait. Now he still waited, guessing that in another hour or so he might chance it again.

He smoked his last cigarette like a man condemned. He carefully smoothed the empty package and put it in his pocket. Then he waited without even that consolation.

On the other side of the barrier, in the small observation room, the two detectives, accustomed now to the presence of the foreign visitor and bored by the absence of action on the flickering screen, resumed the argument Schmidt's entrance had interrupted. They discussed the Flood.

One maintained that the Flood had come because Ralph Waldo had prayed for Divine vengeance seeing that the Nation disregarded his counsel. Furthermore, the things that had gone on in California! The Devil himself had lived in California and had feasted his nostrils on the smoke of hippies and cats and children sacrificed by cultists on the beaches over fires of driftwood. It was no surprise to the detective that God should listen to Ralph's entreaties. He himself had known something would happen just from reading his Bible.

The second one called the first a superstitious fool whose blabberings were a blasphemy and degraded the Great Mental Scientist. He wouldn't sit by and let any man make a petty tribal god out of Ralph Waldo. Ralph was the ultimate modern man—a man who'd learned the laws both of Matter and Spirit.

If this detective's opinion counted for anything, it was that Ralph had foreseen the Flood by searching the Future with his Third Eye, the one the Hindoos said was right in the center of your forehead and opened when you lived a strictly scientific life. As for the Bible, in his humble opinion, it was a corruption of something once valuable, but for all practical purposes, it was as good as useless now.

As this argument grew heated, Gilligan became slightly embar-

rassed and tried to engage Schmidt in a competing conversation. But Schmidt waved him away. He said this was a most interesting and enlightening discussion. Hearing this, the detectives launched into ever greater flights of eloquence.

Thus time passed.

At last, in his cave, Manny-Man rose from his rock. He thought he detected a thinning of sparkles in the color, and when he tested the Fire with a finger, he found that it had lessened its bite.

The third try would succeed, he decided. Three was the Lady's sacred number. This time he'd make it all the way through and not recoil from the suffocating nausea and the searing, paralyzing pain.

He took a deep breath.

His fear had become so intense that his bod no longer felt it. Sweat beads stood on his forehead and over his lip. He moved forward, but his feet were rooted in the clay dirt of the ground. He stared down and saw bits of old tile that had paved this area.

"Please," he whispered. "Please, Lady, be with me, let me go, let it be over, please release me."

The lady denied his request. Instead she made him think compulsively about the passage back which was also still before him. He'd have to make it carrying a girl in his arms. And he remembered Betty Simple as they'd passed through coming the other way—not at this breach but at another. She had

screamed in the middle of the hell of Fire. And he'd stared at her face, her open mouth, her terrified eyes. And Fire had clung to her lips and tongue and teeth. Her brows and hair and eyes had flamed. And he'd almost fainted with the fear of strangeness that had overcome his bod fear.

"Be with me, Lady," he whispered again.

He gave himself a little nudge forward, and this time his body obeyed him. He eased himself into the brilliant hell slowly, shoulder first, his face torn by a grimace. Centimeter by centimeter he merged with the barrier and became a dark shape within its brilliance.

Schmidt saw the figure first and called attention to it. It was a dark humanoid shadow in the light. It came very slowly. Then at last Manny-Man broke out of the barrier, doubled over, swayed, and fell over like someone dead. He jerked involuntarily. Spasms passed over his half-bent form. Whisps of electromagnetic energy played over the exposed surface of his skin like flames. Then the radiation died down to a shimmer on hands and face. Finally even the shimmer faded away.

"Peacefreak," Gilligan said, and the disputatious detectives nodded. "That's our man." Gilligan was tense with excitement. "The yellow tie," he added with a glance at Schmidt.

Schmidt marveled. The form on the ground testified to the excruciating agonies the slow passage must cause. Why did they do it? Surely only the deepest and most fundamental human motivation could induce a man to go through such torture.

Gilligan walked to a radio and called for someone he dubbed Dragnet Five. He told the man they had a "live one." He gave instructions and emphasized that no action be taken until the subject had committed an act of force. "We've got to have an honest to goodness V-P pair," he concluded. "You know those chicks. They know the Constitution. We've got to get them dead to rights." Dragnet Five said that he understood.

Gilligan then turned to Schmidt. "It's all set. This should be clean as a whistle." He pointed to the screen where the Peacefreak still spasmed on the ground. "He'll come to in about twenty minutes. Then he'll clean himself. They believe they must be spic-and-span to go undetected. They always pick a nice clean spot on this side. I'll give you odds that he'll go *under* the strip and come up in the brick. Then he'll snatch himself a VOP chick, I'd guess. He'll drag her back into the ruins. When he gets her into the shadows, we'll move in."

Gilligan was all serious concentration, all cop. He rubbed his hands.

"And then?" Schmidt asked.

"And then we'll vipple the pair."

III

THE girl waited to be snatched. Her name was Timmy McCallum, but in the Vigil they called her Rubeegol, which was the brandname of a lipstick. She also thought of herself as Rubeegol. She had left her old life behind.

Everyone in the Visible Vigil had a code name, the necessary condition for surreptitious communications by telephone and letter. Communications were essential, for the Vigil orchestrated a widespread national protest—and what it had become, the Expansion Plot. So the girls had code names, and the girlish chit-chat about nailpolishes, deodorants, depilatories, creams, ointments, unguents, and powders wasn't what it seemed.

But it was more complicated than that.

No member of the VV ever spoke to any other member, but they communicated nevertheless, using intermediaries, never fewer than three. The go-betweens were members of the Invisible Vigil. These girls never went near the forty-seven Confinements of New Harmony.

Rubeegol came from the upper class. Her father belonged to the new aristocracy that had arisen with NPSO. He was Internal Crusade Representative for Allied Donsanto International, one of two

chemical giants in the country with headquarters in flood-safe St. Louis in Mokan Harmony. Rubeegol grew up in California. She took part in the East Rush when, following the earliest California tremors in February 1999, a third of the state's population (later called The Remnant) had literally climbed the Rocky Mountains and had thus escaped both the earthquakes and the Flood. Her father had been a space engineer in charge of a thousand people engaged in the formulation of nosecone coatings, and thus he had the management experience required for organizing one of the sixteen Remnant "Salients" that had fanned out all over the land east of the Rockies to generate the popular uprising in favor of Gunnison.

Through the first years of the Renewal, Rubeegol had been an ardent Puritan, working as a nurse in the Civil Disturbance. When things settled down, she resumed her interrupted studies, and since there was no longer a UCLA, she went to Eastcoast. Here she witnessed establishment of the first Confinement, and she was one of the first girls in her class to join the Women's Protest which over time grew into the Vigil.

Rubeegol served IV for nearly four years. She recruited eighty girls at last, and as a reward she was allowed to "take off her make-up," as they said in the Movement. She turned visible. She got her

chance to enter Lady-service inside the barrier.

This was her three hundredth day of vigil. With days off and vacations counted in, that made nearly a year and a half of waiting—time enough to grow impatient, time enough to wonder if she'd ever be snatched.

Yet tonight she had a light heart. Beneath the hard-nosed militancy that came with the acceptance of Vigil discipline, Rubeegol remained a woman. She didn't totally avoid the pervasive anti-fem propaganda which said—in effect—that women were different: more sentimental, a little light headed, warmer of heart, ungifted in technology, and intuitive rather than brainy. She knew all this for the pure bosh it was. Rubeegol knew all about women and what they could do.

In a period of less than seven years, a handful of women (many of them active Puritans during the Renewal) had infiltrated the Confinements and established the Lady-cult. It had started as a collective effort, as a political tactic, a way to give cohesion and hope to the wretches in those unspeakable, bounded slums. But the Cult had developed a spirit and meaning of its own. The rituals devised to manage the masses had begun to act on the originators, and now the Cult was something more. The bits and pieces of poetry and scripture taken almost at random from hundreds of sources and Xeroxed crudely to

make a Holy Book had linked like fibers into a real Scripture with an oddly cohesive logic of its own. The concept of a stern yet benevolent Lady — simultaneously Bride, Mother, and Ancient Crone—now seemed real and vibrant with life. Taboos imposed merely to create an air of mystery turned out now to have inherent value. (One of these was the sanctity of metals of all kinds, and the command to save them.) Disciplines extracted to create order had created high morale. (One of these was the requirement that chiefs undergo the Ordeal of Fire to get a queen and hence to merit their positions of leadership.) Oracular pronouncements by pack and tribal queens became of necessity real oracles. And the sacramental fornications on Janenights—chosen as a central rite because nothing less would have captured the attention of the debased population—had become charged with symbolic significance. The Lady became the Cosmos, the Ecosphere, the Mild Adaptation, the Circle of Peace, the Song of Heaven, the Merciful, the Bond of Service. Her robe was the sky and her undergarments the rainbow, and the barrier itself the shelter of her skirts.

In the Lady's name—and later in Her service—women worked to free the confined populations using any and all tools they could, including technical tools. Rubeegol stood on the edge of the razed terrain in

shoes between whose soles cadmium flakes had been hidden. They would make solar panels, and the panels would power the underground factories. Her clothing was laced with other metals and fibers needed to make neutralizers. Progress was slow, but the first factory, the one beneath Sophia Grande in Eastcoast, already produced such devices. They couldn't be used yet. The authorities could detect neutralizer breaches. But they were being produced, and some day they would be used.

Rubeegol was all too conscious of the fact that women had organized the metals smuggling, by-passing the detectors at the official gates through the device—and the discipline—of Queen Raids. Women had engineered the logistical system Outside as well as the production system within. Women had solved the complex problems presented by an environment so primitive the common people burned fecal waste to cook their meals.

Women. Yes, women had done all that, a signal achievement. The Confinement had helped, of course. The psychic pressures generated by a population expanding against a barrier had prepared the folk for religious conversion. The brutal competition for food had created a longing for unity and peace—and the Lady-cult supplied a kind of central union even as it pardoned and sanctioned the reality of vicious foodwar that it

couldn't stop. Better that some live well than that all starve and Confinement become a graveyard of men and women without flesh on their bones. Meanwhile in every oracle every queen urged the people to make the Realm green.

Women. She was proud to be a woman.

Nevertheless, Rubeegol accepted from the Harmony propaganda what it pleased her to accept. She was superstitious when it pleased her, and she was more intuitive than men, when it pleased her. After all, she was a woman, and it was the ancient privilege of women to do what they pleased. She knew this in her bones.

Tonight it pleased her to have an intuition. She would be snatched. She knew it. It also pleased her to be superstitious. She felt she had received too omens. This was the three hundredth day of her vigil, and the number three was sacred to the Lady. The second omen had been a flashlight beam pointed in her direction by two men who'd stood in the darkness and had then disappeared down the subway entrance. The light had picked her out. Why her? Why not one of the other vigilantes? Rubeegol felt sure it was a sign.

She thought about that, and she thought about life inside the Realm, the year she'd spend inside a cage hung up in a church or chapel, the Janenights she'd announce whenever it pleased her,

and then the work in Sophia Grande on the great plot to break out of the bubbles and overrun the land.

Her mind wandered off into the future and ranged over the past. She exulted in the thought that humanity would once again be reunited in America. The narrow, crabby aberration of a time would be swept away. But then she brought her mind back to her intuition, growing fidgety and nervous again. Her time was nearly up. She'd have to leave soon and then, after a measured interval, as if it had happened at random, another girl would take her place.

But no, she thought, that won't be. Tonight is the night.

It was in the air about her. She felt a sense of expectation.

Or was it just that the squeeze were thicker than usual? In that ruin to her left she'd seen the glow of a cigarette. Earlier she'd heard the upsurge and abrupt cut-off of a transistor radio—as if someone's finger had slipped on the volume dial. They were out in force tonight.

Well, she thought, they can't do anything to me.

Is it *that* that I'm sensing? she wondered, momentarily worried. All those cops?

No, she assured herself. It's real. I'll be snatched tonight.

The police were remarkably well disciplined, by and large. Nevertheless Rubeegol had heard of girls

Ballantine Books

What a banner month September is for the science-fiction side of the house! Leading our mass-market list—breaking out of the category and heading straight for the bestseller lists—is **RENDEZ-VOUS WITH RAMA**, Arthur C. Clarke's smashing new novel! Backed by publicity, promotion and all the attendant fanfare reserved for mainstream bestsellers, **RAMA** is sure to set records for sf sales, perhaps even surpassing **CHILDHOOD'S END**. If that's possible! **RAMA** has been reviewed in all the major media—not least **TIME MAGAZINE**: "The probability that a vast superior intelligence would be totally indifferent to man and his doings is indeed what Clarke is writing about." It's already won the Nebula and John W. Campbell Award . . . and we're betting on its taking the "triple crown!"

If we had to nominate a cover as the best science-fiction cover of this [or any other] year, we'd opt for the Dean Ellis extravaganza that packages **RAMA** . . . but, of course, we are totally impartial. Each year Ellis contributes several of the most imaginative and best executed covers in the business—not only are they beautiful, but they sell books. Strangely, his name never appears on Hugo ballots . . . perhaps because his work is concentrated in the book field, and only exposure in sf magazines keeps an artist's name before the fans. Pity! Think about it . . .

• • •

A year and something ago we read quite an off-beat yarn in *Galaxy*: "A Voice and Bitter Weeping." You may remember it—a delightful tale of some Israeli mercenaries who find themselves embroiled in a war between Texas and the United States. A novel idea, we thought! Indeed, enough ideas floating around to make a novel . . . and so we

long-distanced the chaps responsible in Texas and asked for more—55,000 words more to be exact.

And so, a year later, we offer *The Texas-Israeli War?* 1999, by Jake Saunders and Howard Waldrop. Rebelious Texans have kidnapped the President of the United States and are holding him captive in Crystal City. His future—and indeed the future of the country—depends on a band of fearless Israelis whose courage has been tested in other wars! Sol Ingelstein is the delicious hero, and we nominate Alan—Alda or Arkin—to play the lead, when Hollywood discovers this fast-paced and delightfully exciting sf adventure.



Finding science-fiction short stories to publish is easy. Everybody's a writer—or at least everybody thinks he's a writer. Finding good short stories to publish is quite another matter. Nonetheless, we've thrown our editorial hat into the original-anthology ring and are introducing *STELLAR 1*, all new stories written by: Clement, Dickson, Foster, Lafferty, Niven, Rothman, Silverberg, Simak and Vinge.

The editor of this splendid new series is Judy-Lynn del Rey, who learned all about science fiction in the eight years she was Managing Editor of *Galaxy* and *IF*. Now she is Ballantine's sf editor and writes most of these columns . . . she is also related to Lester del Rey by marriage.



And last, but never least, we offer *STAR TREK LOG TWO*, adaptations of everybody's favorite phenomenon written by Alan Dean Foster. Gene Roddenberry called from California the other day to rave about *LOG ONE* . . . "that Foster has really brought those characters to life . . . can hardly wait for the next one." Well, here it is, on sale everywhere; and *LOG THREE* will follow in January. BB

who'd been dragged off into the ruins by squeeze for a bit of forcible bushwack. She imagined a dirty old mattress, a heavy pressing body, hard breathing.

She shook off the feeling. It had never happened to her, but it was the kind of thing a vigilante was supposed to take in her stride. You couldn't be sexually selective in this job. You'd be the mate of whatever chief snatched you, even if he turned out to be Frankenstein himself.

Time passed.

Rubeegol watched the play of fire in the barrier. An airplane flew by overhead. She grew sluggish and despondent. And when the feet dislodged a brick behind her in the ruin, she mistook the sound for the scamper of a rat. The man caught her totally by surprise. His final rush came too quickly to elicit anything resembling a reaction from her. The hand enveloped her mouth and crushed her nose. She gulped for air. A knee bruised the small of her back. Her hands fought frantically for balance as he pulled her back. Then she saw an explosion of stars. The pain rushed in just as her consciousness fled.

SHE came awake in a speeding Scar. She opened her eyes for a second and immediately closed them again. One glimpse told her that she was in a police van. She lay on a cot. Peripherally she'd sensed another figure next to her, and at

the foot of the cot had squatted a police technician in a white shirt. She'd recognized the gold-rimmed cap. In the wide front seat she'd seen two men next to a driver in a chauffeur's uniform.

The tactic of camouflage rewarded her with information. The men in the front conversed, and she could hear them fairly well despite the rush of tires on the pavement.

"Mind you," one voice said—it was bright, young and eager. "We don't know for sure that it'll work, but our psychologists swear it'll incapacitate the man."

"By the expansion of his consciousness. I was told that; over dinner." The voice of an older man. Rubeegol detected an accent.

Silence. The wheels whizzed over pavement.

Rubeegol felt a dull ache on the side of her head, a throbbing. But she pushed that aside. She was thinking hard. She added one and one together. She had been snatched. In the moment before some hard object had exploded against her head, she'd known her attacker as a chief. By the smell. Not a cop, a chief. The pungent odor still hung in the car. It conjured up a flash-memory of her uncle's farm. Men coming in from the hunt brought in that earthy odor, that redolence of animality. The figure she sensed next to herself must be a chief and her attacker.

Adjustment operation, she thought with irritation. Clumsy at-

tempt to influence the internal politics of the Confinement. It irritated Rubeegol because it meant a delay in her entry, nothing more. They would lecture the chief and, if it pleased them, they'd include her also under the 'victim' rubric of the law. At most they could carry on for twenty-three hours and fifty-nine minutes. Thereafter it was detention, and that was unconstitutional. Then they'd be released or placed inside EC. She preferred release. If she was pushed through the metal detectors at the official entry point, she would lose the precious cargo she carried.

Up front the older man spoke: "You've assured me that it's legal, but I've been thinking. In Berlin we'd call it an invasion of privacy. Isn't that illegal here?" A foreigner, hence the accent.

"Not if it's mutual," the young voice said. "The Celestial Arbiters found that an *exchange* of privacies was not covered."

Rubeegol was puzzled. What on earth were they talking about now. An exchange of privacies? It sounded menacing, somehow.

"Doesn't that come to the same thing?" Berlin asked. "It hurts them both, doesn't it? And even if we assume that the perpetrator deserves what he gets—what about the victim? Those failure rates you cited earlier don't sound encouraging. Not for mice or rats or hamsters or guinea pigs; certainly not for people. You're exposing an

innocent victim to the risk of schizophrenia. High risk, if your numbers are correct."

"Innocent?"

"Of course. The victim's innocent, of course."

"We have a slightly different conception here," the young voice said. "We make no differentiation."

Now Rubeegol understood a part of what they were talking about. Ralph's Science of Morals, she thought. The victim invites the crime. Nothing ever happens by accident. If you get robbed, you *want* to get robbed. The Mind reaches out and grabs hold of Substance. Substance manifests in Phenomena. She thought of the ideological indoctrination she'd undergone during the Renewal and later in college. It had all made marvelous sense at one time.

The older man said: "I had forgotten. That *is* your penological doctrine. That falls under the rubric of co-vibration, right? But I'd understood that you don't carry that principle into practice. Say a high official of NPSO is attacked, what then?"

Rubeegol began to like the old man.

The youngster answered: "As a rule we don't enforce that provision, and there is the exception clause where a victim can show that professional or scientific involvement with crime may have been the cause of the attack. But the point

is, Karl, that we're legally covered. That's why we don't hesitate to vipple the girl. Legally she's as guilty as the man."

"Mr. Gilligan, I—"

But Rubeegol didn't hear what the older man said. The car ran over a ribbed surface now and tires hummed at a high pitch. She recognized the place by the sound. Good old familiar Police Compound. It was like home. They dragged you off to the Compound once a month at least for interrogation. They were on West Side near Seventh Avenue and Thirty-Third Street.

The phrase rang through her mind. *Vipple the girl*. Vipple? Rubeegol began to feel strong apprehensions and judged it high time to come awake officially. She opened her eyes and looked about, sat up. There was a chief beside her, a handsome, dark brute of a man—not Frankenstein, thank God. Her movement appeared to trigger motion in the technician who squatted at the foot of her cot. He reached down into a narrow black case between his legs.

"Where am I? What is this? Where are you taking me?"

She spoke calmly knowing the rules of the game. At her words the two men in the front seat immediately turned and the chauffeur glanced over his shoulder briefly. She saw an expression of sympathy in the grey eyes of the older man, but the young one looked stern. He said:

"Calm yourself, chicky. Just don't get hysterical right away."

"I'm not a bit hysterical. I just want to know where you're taking me."

The young man turned to the technician who still fumbled with something between his knees. "Messerschmidt, you better give her a sedative. She's overwrought."

"Now just a minute," Rubeegol cried, but she saw that it would do no good to argue. The technician had risen to a crouching position and approached her with an injector in his hand. His round cap almost brushed the roof of the van and he swayed with the motion of the vehicle. She struggled briefly when he bent over her, but the gun soon touched her arm at one point, and for the second time within a short span she felt the outrush of awareness.

THE VPLe laboratory's action component was a room divided in the center by a pane of glass. One side contained two elaborate devices that reminded Schmidt of dentist's chairs. An impressive console stood between them. Wires ran from the console to instrument arms above each chair. On the other side of the glass were arm-chairs, couches, a coffee table, and other furniture reminiscent of a doctor's waiting room.

Dr. Fieldgreen, a little man in a white coat and sporting a goatee, stood by the glass with Schmidt on

the couch side. Gilligan leaned over the coffee table behind them and leafed through a magazine. Beyond the glass, lab technicians prepared the V-P pair. Both the girl and the dark man were unconscious, and the technicians strapped them into the chair now.

Dr. Fieldgreen apologized for the seeming simplicity of the set-up. He had a calm, precise delivery. "There is much, much more to VPLe than you see here," he assured Schmidt. "Our computer facilities are on the floor below, and the signal modulators occupy sixty cubic meters on the floor above." He pointed a finger at the white cork of the sound-proofed ceiling. "The rest of this floor is office space, labs, and the animal test areas, of course. Our annual budget is eighty-five million dollars, but of course we spend most of that in outside contracts on component work. You see, Herr Schmidt, we are still looking for improvements. This process takes almost eight hours, which is unacceptable, totally unacceptable." Dr. Fieldgreen frowned and shook his head to underline his words.

"How do you monitor the process," Schmidt asked. He had been toying with an idea he didn't care to share with anyone just yet.

"Through instruments," the doctor said. "I failed to mention that, but we have a recording room next door where the wave patterns are graphed."

"I meant," Schmidt pursued a little guardedly, "I meant human monitoring. Can't you . . . I guess I'd imagined that you could 'listen in' on the exchange between two people. Human monitoring . . ."

The little man shook his head slowly but persistently. "No, no," he said. "No, no, Herr Schmidt." He lifted a finger. "First, it's highly dangerous. The danger of schizoid reaction is pronounced. In that area we are also expending some resources, as you can imagine. Second," and he added another finger, "there's what we call the Heisenberg effect. You see, Herr Schmidt, you can't monitor without participation, and so the monitoring itself would tend to interfere with the process. Third—"

"Excuse me, Doctor. I didn't understand you completely. You mean to say you don't know *what* is exchanged between the people?"

"Of course we do. Their life experience." Dr. Fieldgreen pointed to the couple in the dentist chairs. "Technicians were fitting loose nets of wire over the man's head. *His* experience will become *her* experience, and *her* memories, feelings, etc., will become *his* memories and so forth."

"Do you mean that he'll lose his memories and get hers?" Schmidt asked incredulously.

"No, no. Each will retain his or her memories as well. The process is additive."

"Hmm," Schmidt said, think-

ing. "But as for substance, the content of those memories. Do you monitor . . ."

"We have no way of monitoring that—unless, of course, we were to subject ourselves to VPLE, which is ridiculous."

"Then how do you know what takes place?"

"Through animal tests."

"But how can you be sure? One animal picks up what another animal has learned?"

"Exactly. After VPLE, each has the other's behavioral repertoire."

Schmidt shook his head in wonder. If it was true, if it really worked, this device could fantastically magnify human powers.

"Third," Dr. Fieldgreen said.

Schmidt looked at him in puzzlement. Then he saw the three fingers in the air.

"One more question, Dr. Fieldgreen, before you go on to your third point. Dr. Fieldgreen, has it occurred to you that VPLE might create a superman?"

The doctor nodded. "It has. But we don't think it will. It hasn't created a supermouse or a superrat at this point. As a matter of fact, the tendency is in the other direction. Vipped laboratory animals tend as a whole to underperform in the maze. We have a theory about that. We call it the Field Capacity Syndrome. We assume, and I think rightly, that the brain can only absorb and hold so much information—what we call field capacity.

And if it's overloaded, you get a leaching effect. The additional input seeps away. That seems to be the actual situation. Two sets of experience get mixed up, but only a portion of each remains, and consequently the subject loses mental coordination. At least that was the obvious result with Abe Herzenberg Sultzzy Chico Kid."

Abe Herzenberg Sultzzy Chico Kid. Superrats and supermice. Mental leachate dripping through the psychic ether. A strange world, Karl Schmidt thought, which made mice and rats the model for Man assuming no discontinuity in the spectrum of life between rodent and poet. Maybe there was no sharp and obvious break. Maybe man was nothing more than a superrat . . .

"Third," Dr. Fieldgreen said.

Schmidt gave the persistent doctor a glance. "Oh. Of course. Third, Dr. Fieldgreen."

"Third," said the doctor, "we wouldn't monitor even if we could. That would be an illegal invasion of privacy."

"Why, of course," Schmidt said. "I'd forgotten about that."

DR FIELDGREEN threw the switch shortly after midnight. The instrument panel on the console between the chairs came alive in multichromatic splendor. In the chairs the man and girl seemed unaware that anything had transpired. They sat strapped in, asleep

or comatose, their faces even and peaceful as if they were dreaming. Each had a netting draped about the head with wires extending from the netting to the instrument arm and from there to the console. Furthermore, Schmidt understood that the impulse from *her* chair passed, through the console, into the signal modulator banks on the floor above; and from there, presumably modulated, to the computer banks on the floor below; and from there, appropriately digitalized, into the console; and from there, through the cables, to *his* chair. And vice versa.

Schmidt watched, wondering if he would have a chance to do the foolish thing he had decided to do.

The large group that had assembled soon dispersed again. There was nothing to see, no drama, no action. Nevertheless, Schmidt continued standing before the glass, his arms folded in front, his eyes on the couple. He was aware that his continued presence was a bother to both Gilligan and Dr. Fieldgreen.

At a quarter to one, Gilligan appeared at his elbow and suggested that they retire now. The process would continue until eight in the morning, there would be no change . . .

But Schmidt shook his head.

First, his personal body-clock now said that it was nearly seven in the morning in Berlin, the time he habitually rose without the help of

an alarm. Soon he would get up and put on his thick blue-white robe. In the refrigerator would be a cool carton of yogurt. Five after seven the bell would ring and Rudi, the baker's son, would bring him hot, crisp rolls.

Second, Schmidt was much too interested in this process to abandon the scene now.

He told Gilligan this much, leaving out the yogurt part. Then he tapped the young man on the shoulder in a fatherly way. "Go on home and get a good rest," he said. "You probably have a wife waiting for you."

Gilligan blushed a little. It appeared that he had no wife. He was only thirty-two, and ani-fer asked you not to marry until thirty-five.

"However that may be," Schmidt said, "please feel free to go."

And third, he thought. But the real reason why Schmidt wanted to stay he kept to himself.

Gilligan accepted the verdict and somewhat morosely he sat down on the couch and picked up the magazine he had been reading. It was the latest issue of *The Meditative Scientist*. The lead article was "Gunnison's Contributions in Mental Chemistry."

A little after two in the morning, Gilligan finally gave up his vigil. He rose and told Schmidt that, if it was all right with him, he'd slip off and grab a nap in the BDQ where he lived. Schmidt told him he'd made a wise decision and asked what

BDQ stood for. Bachelor Detective Quarters, Gilligan told him. The BDQ was just a hop and a skip from here, and Gilligan had the phone number of his room written out on a slip of paper torn from a page of the magazine. Call him anytime. Then he bade good night and left.

Still Schmidt waited.

Apart from the hum of machinery and the on-and-off throb of an air compressor somewhere overhead, there was very little activity in the VPLe laboratory. At half past two Dr. Fieldgreen put in an appearance and stayed for a short chat. He parted saying that he'd be unavailable for a while. His assistant, Miss Virginia Haut, could be reached by pushing that button just to the left of the Harmonizer's picture on the wall. Miss Haut spoke German like a native, Dr. Fieldgreen said, as if to encourage Schmidt, and then he also left.

Miss Haut did not make an appearance, but Schmidt noted that a technician entered the action room in half hour intervals, glanced at instruments, and made marks on a sheet affixed to a clipboard.

After a while Schmidt went to the toilet and, on the way, he looked around a bit. He opened a door here and glanced into a room there, and he saw that the place was empty. For a while he contemplated pairs of rats wired in gleaming glass containers as they exchanged lives. A papercluttered

office with wood paneling would be Dr. Fieldgreen's domain. Over the doctor's desk he saw a clock. The time was nearly four.

Schmidt went back to the waiting room just in time to see the technician enter with his clipboard. Schmidt watched while inside his fifty-nine year chest his heart beat like that of a nine-year old. At last the technician took his leave, and Schmidt took a deep breath to calm himself. He squared his shoulders and walked through the glass door in the glass wall disregarding the DO NOT ENTER sign.

IV

EMMANUEL Toronto McCallum Salazar Rubeegol Timmy Smith whirled away into celestial agonies and then dropped down again like a leaf abandoned by the breeze. And then the breeze came back again and carried the androgynous Creature up again in a spiral through corridors of fusing experience . . . back, back, back once more to that which had been, until the plasticities of perception collapsed again and the Creature fell in a darkness down, down, down . . . but never far enough down, never down to the dark, still, limpid rest for which it longed.

It was a roller-coaster to exhaustion. Each successive pass penetrated deeper and fused ever more experience. Cell clusters fell into the relentless wine press of some

kind of electronic force and gave up the juices of memory, and a male juice mingled with a female juice and dried on parched vistas of burning nerve deserts into visions.

The Creature seethed with an enormity of insight. It longed to stop and to assess the fantastic experience. Its fused parts started dialogues constantly interrupted by brutal shoves into yet other, deeper, and stranger tangles of recall. On the ends of the whirling, egg-shaped mental cosmos cracks began to form. The Creature sensed in panic that those cracks might open and drain away the last cohesion of its being. Its structure of awareness groaned in the final stages of a pleasure so intense that it was a searing pain.

Stop, screamed the Creature, falling once more, falling into a black darkness of total exhaustion. Stop, it screamed. I can't stand it any more.

And it stopped. Incredibly, it stopped.

The Creature fell. It was a leaf in the shaft of a deep well. The orange-red blaze of experience was a receding circle of light above. It came down slowly, turning. It came to rest on the still surface of a motionless sea.

For a timeless moment the Creature braced for the inevitable kick of forces that would spiral it up from its floating bed into a thousand tortures of mingling, but the kick didn't come. The Creature lay

softly and there was only a wondrous silence all about.

In that stillness and in that darkness, the Creature shaped an ego from the chaos by an act of reflection, and it discovered itself to be Emmanuel Salazar, a Puerto Rican male, lately the leader of a clump of humanity inside a penal reservation on the island of Manhattan. For sound but unconscious reasons, Salazar also used numerous other names, including the patronymic 'Smith,' whose purpose, he realized, was to set him apart and to enhance his authority with the suggestion of Anglo ancestry. He ruled by a combination of skill and instinct—a magnetic personality, quick executive reflexes, and an instant conceptual grasp of small-unit warfare. He commanded respect and won high shares of the Man's food distribution, and therefore he was the key element in Brinco Pack's survival. Through some kind of mechanical contrivance, the Eastcoast police had exposed him to the inner experience of the girl he had chosen for his fifth Queen, and he knew this because she knew it. He assumed that Rubeeogol also knew what he knew. She was the agent of a Movement they called Lady-cult inside the Confinement, and the network embraced, by Salazar's calculation, at least fifteen percent of all women Outside. Within a short time, perhaps less than a year, again by his calculations—combining what he

knew (and now, for the first time, really understood) and what she knew—all of the Confinements in New Harmony would burst open like seedpods and engulf a surprised and unsuspecting world. From the ensuing collision would come—by inference from historical, cultural, anthropological, and psychological studies that Rubeeogol's mind had furnished him as evidence—a great cultural efflorescence.

Salazar smiled at the bottom of the well cradled in a leaf on the measureless ocean of darkness. He retraced the mingling with Rubeeogol's mind and now, in that stillness, he understood the process itself and how the fusion of memories had taken place. Unaware of the mechanism, he had resisted the experience with all of his ego energies, and in the process he'd almost destroyed the structure of his mind. If he ever had to do it again, he would know what to do. He'd cast aside all resistance and plunge with a cry of abandon into the alien mind—so very much the same as his own, so very much One and inseparably human.

And then he saw the dot of orange light at the top of the well grow in diameter until it became a blazing sun that came down toward him with a rush of light and fire, and he plunged eagerly into the kind, surprised, but welcoming mind of Karl Schmidt, Superintendent of the Berlin Police.

THE LONG arm of the clock on the wall moved dangerously close to the six. Schmidt expected the technician to come in any second with the clipboard.

Don't go yet, Salazar's mind said to him. Give her time to recover and to consolidate her ego.

There was a kind of laughter in the mind, a joyousness, an anticipation. He loves her, Schmidt thought.

Of course I love her, Salazar laughed. How can you help but love someone you are.

They both knew that Rubeegol's mind had swayed on the brink of collapse when Schmidt had at last released her for the leaf-like drop to the bottom of the well. They also knew that, given time, she'd make the same discoveries as Salazar had made, for she knew what he knew. Her impact on Schmidt had been far more brutal than Salazar's. Schmidt had clutched his head at the temples when the force pulled him into the panoramas of her being. He had reared back like an epileptic with the shock. The man, by contrast, was in control. He gave of himself or he denied as he wished. He could carry on a conversation or wander about Schmidt's memories taking this and leaving that. The power of his mind enveloped Schmidt and made the old man marvel at the potentialities of the human brain. But time was running out. The consequence of a discovery were more hazardous

than the benefit of another minute's rest for Rubeegol. Schmidt thought "Good-bye" to Salazar and removed the netting from his head. He replaced it carefully over the girl's blond hair and then, furtively, like a fifty-nine year schoolboy, he slipped out through the door into the waiting room.

He'd left just in time. The technician entered and made for the gauges on the instrument console between the chairs. He lingered somewhat longer than usual, and his face darkened with puzzlement. He glanced at Rubeegol. He moved to her side. He removed and then replaced the netting on her head. Finally, back at the console, he nodded to himself and made a notation on his board.

Schmidt sought the comfort of the couch, sank down, and closed his eyes. He smiled to himself, rich with information about the East-coast Confinement. He, she, and Salazar knew something perhaps no one else knew so well—the shape of the future. He knew less than they did, of course. He'd only gotten a brief, confused glimpse, but it had been enough to cheer him. Schmidt also hoped that the glimpse of *him* that was now theirs would have a balmy influence—like a vitamin or other vital trace element—in the growth of the Movement. He was sure that both of them would play major, perhaps decisive, roles in its future.

The experience had drained him,

although it was still early. At the moment, in Berlin, it went on toward eleven in the morning—almost time to walk down to Cafe Mayer where, in company of men who had long retired, Schmidt took a cup of coffee, a small brandy, and granted himself a single cigar. Mid-morning. He dozed off.

Gilligan returned at seven-thirty restored to a pink, scrubbed, cheerful self full of eagerness to please. He brought a thermos of coffee for Herr Schmidt and a sweet roll. At a quarter to eight Dr. Fieldgreen walked through the waiting room muttering to himself. He clutched a set of paper discs marked by squiggly lines. He came back through again and then yet once more, until Gilligan stopped him and asked what it was that bothered him so.

"Back to the drawing boards," Dr. Fieldgreen muttered. He slapped a set of disks with a limp hand. "There is an inexplicable change in the pattern. It happened between four and four-thirty. We can't figure it out." He glanced at Schmidt. "Did you observe anything, Herr Schmidt?"

Schmidt shook his head slowly. "I'm afraid I won't be much help. After Mr. Gilligan left me in a lurch last night, I confess I followed his example and fell asleep on the couch." He smiled. "Sorry."

"Damnable pattern," Fieldgreen muttered, staring down at the disk. "It's almost as if . . ." He shook

his head and walked out again.

At eight o'clock the entire VPLE laboratory staff arrived for the conclusion of the exercise. They crowded around the glass of the observation room while inside technicians uncoupled the victim-perpetrator pair. Schmidt stood at the window pretending consuming interest, but he already knew the strategy the couple would follow, something that he had worked out in a nano-second exchange of thought between himself and Salazar.

It all went as planned. The couple acted disoriented, sluggish, and stupid. Everyone beamed on Schmidt's side of the glass and exchanged pleased nods and glances. Just like Abe Herzenberg Sultz Chico Kid. Unresisting, the couple let itself be led into the van. Then, with Schmidt and Gilligan up front again, the group drove in early morning light—it was overcast now—through the much diminished shimmer of holographic images north to the edge of the Confinement.

Detectives pushed the couple out of the van on the periphery of the brick. It looked far more dreary and desolate to Schmidt than it had in the rainbow-shimmer of the night. Before the van backed away again, leaving the pair outlined against the ruins, both he and she contrived to shoot a glance of full awareness to Schmidt, a look only the three of them understood.

The van backed away, turning. It

lurched forward, backed again in the narrow road, and then it pulled away toward the concrete geometrics of Manhattan.

Emmanuel Salazar looked at the girl and she looked at him. Her face was his face, and he could read her eyes almost as if they were his own. There was still a little strangeness about her. He didn't know all about her; he hadn't plumbed her deepest being. The German had saved them. He had interrupted the process, and they both retained unviolated sanctuaries of irreducible privacy. His mind wheeled with the enormity of the task ahead, and he sensed that she had the same thought. So much to do. Harmony's new technology must be replicated. Raiding chiefs must be protected from the VPLE experience. Greater cohesion must be created within. Forces must be freed for production work. Time was of the essence. They had to win the race against GLSC. A track opened before his mental eyes. Soon he'd be chief of Peacefreak Tribe and later chief of chiefs. The process would be inevitable. He felt within him the fire and eloquence to move hearts, the will to overcome, and the intelligence to see the answers. And Rubeegol would remain his partner and mate throughout. She'd become the Lady's surrogate, She of the Visible Expansion. Together they would link the Confinements into a coordinated whole. She'd rule the

temple, and he'd rule the war. He saw a flickering in her eyes, and with gladness he dropped these thoughts and smiled at her in response.

"You know, of course, that I love you."

"I never would have guessed," she said.

They embraced and kissed. When they broke apart, she said:

"No, darling, I won't scream in the Fire like Betty Simple did."

"That's encouraging," he said. "And I promise that I'll bathe occasionally."

"I'd call that progress," she said.

"Come on," he said, "after a night like this, I can hardly wait to get to know you."

"What've you got in mind," she asked. "A Janenight in the morning?"

"No, no. I don't particularly care to be watched. Let's have a dry run."

"Not too dry," she said, and they both laughed.

IT WAS the summer of 2008, a perfectly ordinary year. On July 19th of that year, at 2:49 in the afternoon, Berlin's Superintendent of Police boarded Lufthansa's Flight 301 for the transatlantic trip to Germany—and lest the old man get the wrong impression, a delegation of Eastcoast officials followed him all the way to the end of the ramp of Peaceful Abiding International Airport's international terminal.

Karl Schmidt stood before them, tall, grave, his long face kindly. He had been briefed, he had been toured, and now he assured the gentlemen that he had seen a very, very impressive display of American ingenuity. Yes, indeed, he said, America was and remained the land of promise, the beacon of the future. The officials were clearly pleased, and they waved to him as he boarded the jumbo jet. Hank Gilligan walked into the plane with him and made sure that he had a pillow and that his hat was properly put away into the overhead rack. Then, tears in his eyes, he shook hands with the German and, with a sob, turned and walked out.

The plane took off and flew away east. Soon it plunged into the night that came rushing west.

Schmidt did not sleep this time. He spent some hours on Level II, in the lounge, with a bottle of wine. He chatted with the senior stewardess. He enjoyed a light, Continental dinner. He browsed through some European newspapers he hadn't seen in days and caught up on all the latest scandals, abductions, and civil disturbances. Finally he walked up the stairs to the observation room of the triple-decker jumbo. He took up a position in front of one of the large oval windows, folded his arms across his back, and reflected on the mysterious unfolding of destiny.

Strange, he thought, very strange.

Inadvertently, unconsciously—or perhaps inspired by a kind of madness that is really the ultimate in sanity—Ralph Waldo Gunnison had stumbled onto the solution, one solution. He had intensified the disunities, separations, fragmentations, hatreds, and alienations that plagued the world. He had magnified the global disease to a point where man's genius at last found an answer. A new culture grew like a fetus inside the womb of Confinement, and it would burst forth soon, its face still shrouded, its character unrevealed. For a while there would be turmoil and the clash of forces old and new; but then the world would hear a new song and march to a new drum-beat.

Schmidt knew what he would tell the Senate. Wait, he'd say to them. Wait a couple of years. Oh, yes. Plan by all means. Plan in a low-key sort of way. Don't announce it to the public. Planning would take the Senate's attention off the issue. It would set their mind at ease about the future. And the future, Schmidt knew, would be revealed soon. In two years there would be no longer any Confinements on earth.

The huge machine hummed competently through the darkness. In the sky stars hung in silence, unmoving. Then, suddenly, much sooner than he had expected, dawn drew a bright line across the horizon. ★

UNDER THE HAMMER



*Like the man said:
"War is Hell."*

DAVID DRAKE

"THINK you're going to like killing, boy?" asked the old man on double crutches.

Rob Jenne turned from the streams of moving cargo to his unnoticed companion in the shade of the starship's hull. His own eyes were pale gray, suited like his dead-white skin to Burlage, whose ruddy sun could raise a blush but not a tan. When they adjusted, they took in the clerical collar which completed the other's costume. The smooth, black synthetic contrasted oddly with the coveralls and shirt of local weave. At that, the Curwinite's outfit was a cut above Rob's own, the same worksuit of Burlage sisal that he had worn as a quarryhand at home. Uniform issue would come soon.

At least, he hoped and prayed it would.

When the youth looked away after an embarrassed grin, the priest chuckled. "Another damned old fool, hey boy? There were a few in your family, weren't there . . . the ones who'd quote the Book of the Way saying not to kill—and here you go off for a hired murderer. Right?" He laughed again,

seeing he had the younger man's attention. "But that by itself wouldn't be so hard to take—you were leaving your family anyway, weren't you, nobody really believes they'll keep close to their people after five years, ten years of star hopping. But your mates, though, the team you worked with . . . how did you explain to them why you were leaving a good job to go on contract? 'Vial!'" the priest mimicked, his tones so close to those of Barney Larsen, the gang boss, that Rob started in surprise, "you get your coppy ass shot off, lad, and it'll serve you right for being a fool!"

"How do you know I signed for a mercenary?" Jenne asked, clenching his great, calloused hands on the handle of his carry-all. It was everything he owned in the universe in which he no longer had a home. "And how'd you know about my Aunt Gudrun?"

"Haven't I seen a thousand of you?" the priest blazed back, his eyes like sparks glinting from the drill shaft as the sledge drove it deeper into the rock. "You're young and strong and bright

enough to pass Alois Hammer's tests—you be proud of that, boy, few enough are fit for Hammer's Slammers. There you were, a man grown who'd read all the cop about mercenaries, believed most of it . . . more'n ever you did the Book of the Way, anyhow. Sure, I know. So you got some off-planet factor to send your papers in for you, for the sake of the bounty he'll get from the Colonel if you make the grade—"

The priest caught Rob's blink of surprise. He chuckled again, a cruel, unpriestly sound, and said, "He told you it was for friendship? One a these days you'll learn what friendship counts, when you get an order that means the death of a friend—and you carry it out."

Rob stared at the priest in repulsion, the grizzled chin resting on interlaced fingers and the crutches under either armpit supporting most of his weight. "It's my life," the recruit said with sully defiance. "Soon as they pick me up here, you can go back to living your own. 'Less you'd be willing to do that right now?"

"They'll come soon enough, boy," the older man said in a milder voice. "Sure, you've been ridden by everybody you know . . . now that you're alone, here's a stranger riding you too. I don't mean it like I sound . . . wasn't born to work, I guess. There's priests—and maybe the better ones—who'd say that signing on

with mercenaries means so long a spiral down that maybe your soul won't come out of in another life or another hundred. But I don't see it like that.

"Life's a forge, boy, and the purest metal comes from the hottest fire. When you've been under the hammer a few times, you'll find you've been beaten down to the real, no lies, no excuses. There'll be a time, then, when you got to look over the product . . . and if you don't like what you see, well, maybe there's time for change, too."

The priest turned his head to scan the half of the horizon not blocked by the bellied-down bulk of the starship. Ant columns of stevedores manhandled cargo from the ship's rollerway into horse and ox-drawn wagons in the foreground: like most frontier worlds, Burlage included, self-powered machinery was rare in the backcountry. Beyond the men and draft animals stretched the fields, studded frequently by orange-golden clumps of native vegetation.

"Nobody knows how little his life's worth till he's put it on the line a couple times," the old man said. "For nothing. Look at it here on Curwin—the seaboard taxed these uplands into revolt, then had to spend what they'd robbed and more to hire an armored regiment. So boys like you from—Scania? Felsen?"

"Burlage, sir."

"Sure, a quarryman, should have known from your shoulders. You come in to shoot farmers for a gang of coastal moneymen you don't know and wouldn't like if you did." The priest paused, less for effect than to heave in a quick, angry breath that threatened his shirt buttons. "And maybe you'll die, too; if the Slammers were immortal, they wouldn't need recruits. But some that die will die like saints, boy, die martyrs of the Way, for no reason, for no reason . . .

"Your ride's here, boy."

THE suddenly emotionless words surprised Rob as much as a scream in a silent prayer would have. Hissing like a gun-studded dragon, a gray-steel combat car slid onto the landing field from the west. Light dust puffed from beneath it: although the flat-bed trailer behind was supported on standard wheels, the armored vehicle itself hovered a hand's-breadth above the surface at all points. A dozen powerful fans on the underside of the car kept it floating on an invisible bubble of air, despite the weight of the fusion power unit and the steel-iridium armor. Rob had seen combat cars on the entertainment cube occasionally, but those skittering miniatures gave no hint of the awesome power that emanated in reality from the machines. This one was ten meters long and three wide at the base, the armored sides

curving up like a turtle's back to the open fighting compartment in the rear.

From the hatch in front of the powerplant stuck the driver's head, a blank-mirrored ball in a helmet with full face shield down. Road dust drifted away from the man in a barely-visible haze, cleaned from the helmet's optics by a static charge. Faceless and terrible to the unfamiliar Burlager, the driver guided toward the starship a machine that appeared no more inhuman than did the man himself.

"Undercrewed," the priest murmured. "Two men on the back deck aren't enough for a car running single."

The older man's jargon was unfamiliar but Rob could follow his gist by looking at the vehicle. The two men standing above the waist-high armor of the rear compartment were clearly fewer than had been contemplated when the combat car was designed. Its visible armament comprised a heavy powergun forward to fire over the head of the driver, and a similar weapon, also swivel-mounted, on either side to command the flanks and rear of the vehicle. But with only two men in the compartment there was a dangerous gap in the circle of fire the car could lay down if ambushed. Another vehicle for escort would have eased the danger, but this one was alone save for the trailer it drew.

Though as the combat car drew

closer, Rob began to wonder if the two soldiers present couldn't handle anything that occurred. Both were in full battle dress, wearing helmets and laminated back and breast armor over their khaki. Their faceplates were clipped open. The one at the forward gun, his eyes as deep-sunken and dead as the three revolving barrels of his weapon, was in his forties and further aged by the dust sweated into black grime in the creases of his face. His head rotated in tiny jerks, taking in every nuance of the sullen crowd parting for his war-car. The other soldier was huge by comparison with the first and lounged across the back in feigned leisure: feigned, because either hand was within its breadth of a powergun's trigger, and his limbs were as controlled as spring steel.

With careless expertise, the driver backed his trailer up to the conveyor line. A delicate hand with the fans allowed him to angle them slightly, drifting the rear of the combat car to edge the trailer in the opposite direction. The larger soldier contemptuously thumbed a waiting horse and wagon out of its slot. The teamster's curse brought only a grin and a big hand rested on a powergun's receiver, less a threat than a promise. The combat car eased into the space.

"Wait for an old man," the priest said as Rob lifted his carry-all. "and I'll go with you." Glad even for that company, the recruit

smiled nervously, fitting his stride to the other's surprisingly nimble swing-and-pause, swing-and-pause.

The driver dialed back minuscule on the power and allowed the big vehicle to settle to the ground without a skip or a tremor. One hand slid back the face shield to a high, narrow nose and eyes that alertly focused on the two men approaching. "The Lord and his martyrs!" the driver cried in amazement. "It's Blacky himself come in with our newbie!"

Both soldiers on the back deck slewed their eyes around at the cry. The smaller one took one glance, then leaped the two meters to the ground to clasp Rob's companion. "Hey!" he shouted, oblivious to the recruit shifting his weight uncertainly. "Via, it's good to see you! But what're you doing on Curwin?"

"I came back here afterwards," the older man answered with a smile. "Born here, I must've told you . . . though we didn't talk a lot. I'm a priest now, see?"

"And I'm a flirt like the load we're supposed to pick up," the driver said, dismounting with more care than his companion. Abreast of the first soldier, he too took in the round collar and halted gape-mouthed. "Lord, I'll be a copy rag if you ain't," he breathed. "Whoever heard of a blower captain taking the Way?"

"Shut up, Jake," the first soldier said without rancor. He stepped back from the priest to take a

better look, then seemed to notice Rob. "Umm," he said, "you the recruit from Burlage?"

"Yessir. M-my name's Rob Jenne, sir."

"Not 'sir', there's enough sirs around already," the veteran said. "I'm Chero, except if there's lots of brass around, then make it Sergeant-Commander Worzer. Look, take your gear back to the trailer and give Leon a hand with the load."

"Hey, Blacky," he continued with concern, ignoring Rob again, "what's wrong with your legs? We got the best there was."

"Oh, they're fine," Rob heard the old man reply, "but they need a weekly tuning. Out here we don't have the computers, you know; so I get the astrogation boys to sync me up on the ships' hardware whenever one docks in—just waiting for a chance now. But in six months the servos are far enough out of line that I have to shut off the power till the next ship arrives. You'd be surprised how well I get around on these pegs, though . . ."

Leon, the huge third crew member, had loosed the top catches of his body armor for ventilation. From the look of it, the laminated casing should have been a size larger; but Rob wasn't sure anything larger was made. The gunner's skin where exposed was the dense black of a basalt outcropping. "They'll be a big crate to go on, so just set your gear down till we get it loaded," he said. Then he

grinned at Rob, teeth square and slightly yellow against his face. "Think you can take me?"

That was a challenge the recruit could understand, the first he could meet fairly since boarding the starship with a one-way ticket to a planet he had never heard of. He took in the waiting veteran quickly but carefully, proud of his own rock-hardened muscles but certain the other man had been raised just as hard. "I give you best," the blond said. "Unless you feel you got to prove it?"

The grin broadened and a great black hand reached out to clasp Rob's. "Naw," the soldier said, "just like to clear the air at the start. Some of the big ones; Lord, testy ain't the word. All they can think about's what they want to prove with me . . . so they don't watch their side of the car, and then there's trouble for everybody."

"Hammer's Regiment?" called an unfamiliar voice. Both men looked up. Down the conveyor rode a blue-tunicked ship's man in front of what first appeared to be a huge crate. At second glance Rob saw that it was a cage of light alloy holding four . . . "Dear Lord!" the recruit gasped.

"Roger, Hammer's," Leon agreed, handing the crewman a plastic chit while the latter cut power to the rollers to halt the cage. The chit slipped into the computer linkage on the crewman's left wrist, lighting a green indicator when it

proved itself a genuine bill of lading.

There were four female humanoids in the cage—stark naked except for a dusting of fine blue scales. Rob blinked. One of the near-women stood and with a smile—Lord, she had no teeth!—and rubbed her groin deliberately against one of the vertical bars.

"First quality Genefran flirts," Leon chuckled. "Ain't human, boy, but the next best thing."

"Better," threw in Jake, who had swung himself into the fighting compartment as soon as the cage arrived. "I tell you, kid, you never had it till you had a flirt. Surgically modified and psychologically *prepared*. Rowf!"

"N-not human?" Rob stumbled, unable to take his eyes off the cage, "you mean like *monkeys*?"

Leon's grin lit his face again, and the driver cackled. "Well, don't know about monkeys, but they're a whole lot like sheep."

"You take the left side and we'll get this aboard," Leon directed. The trailer's bed was half a meter below the rollerway so that the cage, though heavy and awkward, could be slid without much lifting.

Rob gripped the bars numbly, turning his face down from the tittering beside him. "Amazing what they can do with implants and a wig." Jake was going on, "though a course there's a lot of cutting to do first, but those ain't the differences you see, if you follow. The

scales, now—they have a way—"

"Lift!" Leon ordered, and Rob straightened at the knees. They took two steps backward with the cage wobbling above them as the girls—the flirts!—squealed and hopped about. "Down!" and cage clashed on trailer as the two big men moved in unison.

Rob stepped back, his mouth working in distaste, unaware of the black soldier's new look of respect. Quarry work left a man used to awkward weights. "This is foul," the recruit marveled. "Are those really going back with us for, for . . ."

"Rest'n relaxation," Leon agreed, snapping tie-downs around the bars.

"But how . . ." Rob began, looking again at the cage. When the red-wigged flirt fondled her left breast upward, he could see the implant scars pale against the blue. The scales were more thinly spread where the skin had been stretched in molding it. "I'll *never* touch something like that. Look, maybe Burlage is pretty backward about . . . things, about sex, I don't know. But I don't see how anybody could . . . I mean—"

"Via, wait till you been here as long as we have," Jake giped. He clenched his right hand and pumped it suggestively. "Field expedients, that's all."

"On this kinda contract," Leon explained, stepping around to get at the remaining tie-downs, "you

can't trust the local girls. Least not in the field, like we are. The Colonel likes to keep us patrol sections pretty much self-contained."

"Yeah," Jake broke in—would his cracked tenor never cease? "Why, some of these whores, they take a razor blade, see—in a cord, you know?—and, well never mind." He laughed, seeing Rob's face.

"Jake," Sgt. Worzer called, "hop in."

The driver slipped instantly into his hatch. Disgusting as Rob found the little man, he recognized his ability. Jake moved with lethal certainty and a speed that belied the weight of his body armor.

"Ready to lift, Chcro?" he asked.

THE PRIEST was levering himself toward the starship again. Worzer watched him go for a moment, shook his head. "Just run us out to the edge of the field," he directed. "I got a few things to show our recruit before we head back; nobody rides in my car without knowing how to work the guns." With a sigh he hopped into the fighting compartment. Leon motioned Rob in front of him. Gingerly, the recruit stepped onto the trailer hitch, gripped the armored rim with both hands, lifted himself about. Leon followed. The trailer bonged as he pushed off from it, and his bulk cramped the littered compartment as soon as he

grunted over the side.

"Put this on," Worzer ordered, handing Rob a dusty, bulbous helmet like the others wore. "Brought a battle suit for you, too," he said, kicking the jointed armor leaning against the back of the compartment, "but it'd no more fit you than it would Leon there."

The black laughed. "Gonna be tight back here till the kid or me gets zapped."

"Move'er out," Worzer ordered. The words came through unsuspected earphones in Rob's helmet, although the sergeant had simply spoken, without visibly activating a pickup.

The car vibrated as the fans revved, then lifted with scarcely a jerk. From behind came the squeals and chirrups of the frills as the trailer rocked over the irregularities in the rammed-earth field.

Worzer looked hard at the starship's open crew portal as they hissed past it. "Funny what folks go an' do," he said to no one in particular. "Via, wonder what I'll be in another ten years."

"Pet food, likely," joked the driver, taking part in the conversation although physically separated from the other crewmen.

"Shut up, Jake," repeated the blower captain. "And you can hold it up here, we're out far enough."

The combat car obediently settled on the edge of the stabilized area. The port itself had capacity

for two ships at a time; the region it served did not. Though with the high cost of animal transport many manufactures could be star-hopped to Curwin's back country more cheaply than they could be carried from the planet's own more urbanized areas, the only available exchange was raw agricultural produce—again limited to the immediate locality by the archaic transport. Its fans purring below audibility, the armored vehicle rested on an empty area of no significance to the region—unless the central government should choose to land another regiment of mercenaries on it.

"Look," the sergeant said, his deep-set eyes catching Rob's, "we'll pass you on to the firebase when we take the other three frills in next week. They got a training section there. We got six cars in this patrol, that's not enough margin to fool with training a newbie. But neither's it enough to keep somebody useless underfoot for a week, so we'll give you some basics. Not so you can wise-ass when you get to training section, just so you don't get somebody killed if it drops in the pot. Clear?"

"Yessir." Rob broke his eyes away, then realized how foolish he must look staring at his own clasped hands. He looked back at Worzer.

"Just so it's understood," the sergeant said with a nod. "Leon, show him how the gun works."

The big black rotated his weapon so that the muzzles faced forward and the right side was toward Rob and the interior of the car. The mechanism itself was encased in dull-enameled steel ornamented with knobs and levers of unguessable intent. The barrels were stubby iridium cylinders with smooth, two-centimeter bores. Leon touched one of the buttons, then threw a lever back. The plate to which the barrels were attached rotated 120 degrees around their common axis, and a thick disk of plastic popped out into the gunner's hand.

"When the bottom barrel's ready to fire, the next one clockwise is loading one a these"—Leon held up the 2 cm disk—"and the other barrel, the one that's just fired, blows out the empty."

"There's a liquid nitrogen ejector," Worzer put in. "Cools the bore same time it kicks out the empty."

"She feeds up through the mount," the big soldier went on, his index finger tracing the path of the energized disks from the closed hopper bulging in the sidewall, through the ball joint and into the weapon's receiver. "If you try to fire and she don't, check this." The columnar finger indicated but did not move the stud it had first pressed on the side of the gun. "That's the safety. She still doesn't fire, pull this"—he clacked the lever, rotating the barrel cluster an-

other one-third turn and catching the loaded round that flew out. "Maybe there was a dud round. She still don't go, just get down outa the way. We start telling you about second-order malfunctions and you won't remember where the trigger is."

"Ah, where is the trigger?" Rob asked diffidently.

Jake's laughter rang through the earphones and Worzer himself smiled for the first time. The sergeant reached out and rotated the gun. "See the grips?" he asked, pointing to the double handles at the back of the receiver. Rob nodded.

"Okay," Worzer continued, "you hold it there"—he demonstrated—"and to fire, you just press your thumbs against the trigger plate between 'em. Let up and it quits. Simple."

"You can clear this field as quick as you can spin this little honey," Leon said, patting the gun with affection. "The hicks out there"—his arm swept the woods and cultivated fields promiscuously—"got some rifles, they hunted 'fore the trouble started, but no powerguns to mention. About all they do since we moved in is maybe pop a shot or two off, and hide in their holes."

"They've got some underground stockpiles," Worzer said, amplifying Leon's words, "explosives, maybe some factories to make rifle ammo. But the Colonel set up a recce net—spy satellites, you

know—as part a the contract. Any funny movement day or night, a signal goes down to whoever's patrolling there. A couple calls and we check out the area with ground sensors . . . anything funny then—vibration, hollows showing up on the echo sounder, magnetics—anything!—and bam! we call in the artillery."

"Won't take much of a jog on the way back," Leon suggested, "and we can check out that report from last night."

"Via, that was just a couple dogs," Jake objected.

"Okay, so we prove it was a couple dogs," rumbled the gunner. "Or maybe the hicks got smart and they're shielding their infra-red now. Been too damn long since anything popped in this sector."

"Thing to remember, kid," Worzer summed up, "is never get buzzed at this job. Stay cool, you're fine. This car's got more fire-power'n everything hostile in fifty kilos. One call to the firebase brings in our arty, anything from smoke shells to a nuke. The rest of our section can be here in twenty minutes, or a tank platoon from the firebase in two hours. Just stay cool."

TURNING forward, the sergeant said, "Okay, take her home, Jake. We'll try that movement report on the way."

The combat car shuddered off the ground, the frills shrieking.

Rob eyed them, blushed, and turned back to his powergun, feeling conspicuous. He took the grips, liking the deliberate way the weapon swung. The safety button was glowing green, but he suddenly realized that he didn't know the color code. Green for safe? Or green for ready? He extended his index finger to the switch.

"Whoa, careful, kid!" Leon warned. "You cut fifty civvies in half your first day and the Colonel won't like it one bit."

Sheepishly, Rob drew back his finger. His ears burned, mercifully hidden beneath the helmet.

They slid over the dusty road in a flat, white cloud at about forty KPH. It seemed shockingly fast to the recruit, but he realized that the car could probably move much faster were it not for the live cargo behind. Even as it was, the trailer bounced dangerously from side to side.

The road led through a gullied scattering of grain plots, generally fenced with withes rather than imported metal. Houses were relatively uncommon. Apparently each farmer plowed several separate locations rather than trying to work the rugged or less productive areas. Occasionally they passed a rough-garbed local at work. The scowls thrown up at the smoothly-running war car were hostile, but there was nothing more overt.

"Okay," Jake warned, "here's where it gets interesting. Sure you

still want this half-assed check while we got the trailer hitched?"

"It won't be far," Worzer answered. "Go ahead." He turned to Rob, touching the recruit's shoulder and pointing to the lighted map panel beside the forward gun. "Look, Jenne," he said, keeping one eye on the countryside as Jake took the car off the road in a sweeping turn, "if you need to call in a location to the firebase, here's the trick. The red dot"—it was in the center of the display and remained there although the map itself seemed to be flowing kitty-corner across the screen as the combat car moved—"that's us. The black dot"—the veteran thumbed a small wheel beside the display and the map, red dot and all, shifted to the right on the panel, leaving a black dot in the center—"that's your pointer. The computer feeds out the grid coordinates here"—his finger touched the window above the map display. Six digits, changing as the map moved under the centered black dot, winked brightly. "You just put the black dot on a bunker site, say, and read off the figures to Fire Control Central. The arty'll do all the rest."

"Ah," Rob murmured, "ah . . . sergeant, how do you get the little dot off that and onto a bunker like you said?"

There was a moment's silence. "You know how to read a map, don't you, kid?" Worzer finally asked.

"What's that, sir?"

The earphones boomed and cackled with raucous laughter. "Oh my copy ass!" the sergeant snarled. He snapped the little wheel back, re-centering the red dot. "Lord, I don't know how the training cadre takes it!"

Rob hid his flaming embarrassment by staring over his gunsights. He didn't really know how to use them, either. He didn't know why he'd left Conner's Stoneworks, where he was the cleanest, fastest drillser on the whole copy crew. His powerful hands squeezed at the grips as if they were the driver's throat through which bubbles of laughter still burst.

"Shut up, Jake," the sergeant finally ordered. "Most of us had to learn something new when we joined. Remember how the ol' man found you your first day, pissing up against the barracks?"

Jake quieted.

They had skirted a fence of cane palings, brushing it once without serious effect. Russet grass flanking the fence flattened under the combat car's downdraft, then sprang up unharmed as the vehicle moved past. Jake seemed to be following a farm track leading from the field to a rambling, substantially-constructed building on the near hilltop. Instead of running with the ground's rise, however, the car cut through brush and down a half-meter bank into a broad-based arroyo. The bushes were too stiff to

lie down under the fans. They crunched and howled in the blades, making the car buck, and ricocheted wildly from under the skirts. The bottom of the arroyo was sand, clean-swept by recent run-off. It boiled fiercely as the car first shooped into it, then ignored the fans entirely. Somehow Jake had managed not to overturn the trailer, although its cargo had been screaming with fear for several minutes.

"Hold up," Worzer ordered suddenly as he swung his weapon toward the left-hand bank. The wash was about thirty meters wide at that point, sides sheer and a meter high. Rob glanced forward to see that a small screen to Worzer's left on the bulkhead, previously dark, was now crossed by three vari-colored lines. The red one was bouncing frantically.

"They got an entrance, sure 'nough," Leon said. He aimed his powergun at the same point, then snapped his face shield down. "Watch it, kid," he said. The black's right hand fumbled in a metal can welded to the blower's side. Most of the paint had chipped from the stencilled legend: GRENADES. What appeared to be a lazy overarm toss snapped a knobby ball the size of a child's fist straight and hard against the bank.

Dirt and rock fragments shotgunned in all directions. The gully side burst in a globe of black streaked with garnet fire, followed

by a shock wave that was a physical blow.

"Watch your side, kid!" somebody shouted through the din, but Rob's bulging eyes were focused on the collapsing bank, the empty triangle of black gaping suddenly through the dust—the two ravening whiplashes of directed lightning ripping into it to blast and scatter.

The barrel clusters of the two veterans' powerguns spun whining, kicking gray, eroded disks out of their mechanisms in nervous arcs. The bolts they shot were blue-green flashes barely visible until they struck a target and exploded it with transferred energy. The very rocks burst in droplets of glassy slag splashing high in the air and even back into the war-car to pop against the metal.

Leon's gun paused as his fingers hooked another grenade. "Hold it!" he warned. The sergeant, too, came off the trigger, and the bomb arched into the now-vitrified gap in the tunnel mouth. Dirt and glass shards blew straight back at the bang. A stretch of ground sagged for twenty meters beyond the gully wall, closing the tunnel the first explosion had opened.

Then there was silence. Even the frills, huddled in a terrified heap on the floor of their cage, were soundless.

Glowing orange specks vibrated on Rob's retinas; the cyan bolts had been more intense than he had realized. "Via," he said in awe,

"how do they dare . . .?"

"Bullet kills you just as dead," Worzer grunted. "Jake, think you can climb that wall?"

"Sure. She'll buck a mite in the loose stuff." The gully side was a gentle declivity, now, where the grenades had blown it in. "Wanna unhitch the trailer first?"

"Negative, nobody gets off the blower till we cleaned this up."

"Umm, don't want to let somebody else in on the fun, maybe?" the driver queried. If he was tense, his voice did not indicate it. Rob's palms were sweaty. His glands had understood before his mind had that his companions were considering smashing up, unaided, a guerrilla stronghold.

"Cop," Leon objected determinedly. "We found it, didn't we?"

"Let's go," Worzer ordered. "Kid, watch your side. They sure got another entrance, maybe a couple."

The car nosed gently toward the subsided bank, wallowed briefly as the driver fed more power to the forward fans to lift the bow. With a surge and a roar, the big vehicle climbed. Its fans caught a few pebbles and whanged them around inside the plenum chamber like a rattle of sudden gunfire. At half speed, the car glided toward another fenced grainplot, leaving behind it a rising pall of dust.

"Straight as a plumb line," Worzer commented, his eyes flicking his sensor screen. "Bastards'll be

waiting for us."

ROB GLANCED at him—a mistake. The slam-spang! of shot and ricochet were nearly simultaneous. The recruit whirled back, bawling in surprise. The rifle pit had opened within five meters of him, and only the haste of the dark-featured guerrilla had saved Rob from his first shot. Rob pivoted his powergun like a hammer, both thumbs mashing down the trigger. Nothing happened. The guerrilla ducked anyway, the black circle of his foxhole shaped into a thick crescent by the lid lying askew.

Safety, *safety!* Rob's mind screamed and he punched the button fat-fingered. The rifleman raised his head just in time to meet the hose of fire that darted from the recruit's gun. The guerrilla's head exploded. His brains, flash-cooked by the first shot, changed instantly from a colloid to a blast of steam that scattered itself over a three-meter circle. The smouldering fragments of the rifle followed the torso as it slid downward.

The combat car roared into the field of waist-high grain, ripping down twenty meters of woven fencing to make its passage. Rob, vaguely aware of other shots and cries forward, vomited onto the floor of the compartment. A colossal explosion nearby slewed the car sideways. As Rob raised his eyes, he noticed three more swarthy riflemen darting through the grain

from the right rear of the vehicle.

"Here!" he cried. He swiveled his weapon blindly, his hips colliding with Worzer in the cramped space. A rifle bullet cracked past his helmet. He screamed something again but his own fire was too high, blue-green droplets against the clear sky, and the guerrillas had grabbed the bars while the frills jumped and blatted.

The rifles were slamming but the frills were in the way of Rob's gun. "Down! Down!" he shouted uselessly, and the red-haired frill pitched across the cage with one synthetic breast torn away by the bullet she had leaped in front of. Leon cursed and slumped against Rob's feet, and then it was Chero Worzer shouting, "Hard left, Jake," and leaning across the fallen gunner to rotate his weapon. The combat car tilted left as the bow came around, pinching the trailer against the left rear of the vehicle—in the path of Worzer's powergun. The cage's light alloy bloomed in superheated fireballs as the cyan bolts ripped through it. Both tires exploded together, and there was a red mist of blood in the air. The one guerrilla who had ducked under the burst dropped his rifle and ran.

Worzer cut him in half as he took his third step.

The sergeant gave the wreckage only a glance, then knelt beside Leon. "Cop, he's gone," he said. The bullet had struck the big man

in the neck between helmet and body armor, and there was almost a gallon of blood on the floor of the compartment.

"Leon?" Jake asked.

"Yeah. Lord, there musta been twenty kilos of explosive in that satchel charge. If he hadn't hit it in the air . . ." Worzer looked back at the wreck of the trailer, then at Rob. "Kid, can you unhitch that yourself?"

"You just *killed* them," Rob blurted. He was half blinded by tears and the after-image of the gunfire.

"Via, they did their best on us, didn't they?" the sergeant snarled. His face was tiger striped by dust and sweat.

"No, not them!" the boy cried. "Not them—the girls. You just—"

Worzer's iron fingers gripped Rob by the chin and turned the recruit remorselessly toward the carnage behind. The frills had been torn apart by their own fluids, some pieces flung through gaps in the mangled cage. "Look at'em, Jenne!" Worzer demanded. "They ain't human but if they was, if it was *Leon* back there, I'd a done it."

His fingers uncurled from Rob's chin and slammed in a fist against the car's armor. "This ain't heroes, it ain't no coppy game you play when you want to! You do what you got to do, 'cause if you don't, some poor bastard gets killed later when he tries to.

"Now get down there and unhitch us."

"Yes, sir." Rob gripped the lip of the car for support.

Worzer's voice, more gentle, came through the haze of tears: "And watch it, kid. Just because they're keeping their heads down don't mean they're all gone." Then, "Wait." Another pause while the sergeant unfastened the belt and holstered handgun from his waist and handed it to Rob. Leon wore a similar weapon, but Worzer did not touch the body. Rob wordlessly clipped the belt, loose for not being fitted over armor, and swung down from the combat car.

The hitch had a quick-release handle, but the torquing it had received in the last seconds of battle had jammed it. Nervously aware that the sergeant's darting-eyed watchfulness was no pretense, that the shot-scythed grainfield could hide still another guerrilla, or a platoon of them, Rob smashed his boot heel against the catch. It held. Wishing for his driller's sledge, he kicked again.

"Sarge!" Jake shouted. Grain rustled on the other side of the combat car and against the sky beyond the scarred armor loomed a parcel. Rob threw himself flat.

THE explosion picked him up from the ground and bounced him twice, despite the shielding bulk of the combat car. Stumbling

upright, Rob steadied himself on the armored side.

The metal felt odd. It no longer trembled with the ready power of the fans. The car was dead, lying at rest on the torn-up soil. With three quick strides, the recruit rounded the bow of the vehicle. He had no time to inspect the dished-in metal, because another swarthy guerrilla was approaching from the other side.

Seeing Rob, the ex-farmer shouted something and drew a long knife. Rob took a step back, remembered the pistol. He tugged at its unfamiliar grip and the weapon popped free into his hand. It seemed the most natural thing in the world to finger the safety, placed just as the tri-barrel's had been, then trigger two shots into the face of the lunging guerrilla. The snarl of hatred blanked as the body tumbled face-down at Rob's feet. The knife had flown somewhere into the grain.

"Ebros?" a man called. Another lid had raised from the ground ten meters away. Rob fired at the hole, missed badly. He climbed the caved-in bow, clumsily one-handed, keeping the pistol raised. There was nothing but twisted metal where the driver had been. Sgt. Worzer was still semi-erect, clutched against his powergun by a length of structural tubing. It had curled around both his thighs, fluid under the stunning impact of the satchel charge. The map display was a

pearly blank, though the window above it still read incongruously 614579 and the red line on the detector screen blipped in nervous solitude. Worzer's helmet was gone, having flayed a bloody track across his scalp as it sailed away. His lips moved, though, and when Rob put his face near the sergeant's he could hear, "The red . . . pull the red tab . . ."

Over the left breast of each set of armor were a blue and a red tab. Rob had assumed they were decorations of some sort. He shifted the sergeant gently. The tab was locked down by a cotter pin which he yanked out. Something hissed in the armor as he pulled the tab, and Sgt. Worzer murmured, "Oh Lord. Oh Lord." Then, "Now the stimulant, the blue tab."

After the second injection sped into his system, the sergeant opened his eyes. Rob was already trying to straighten the entrapping tube. "Forget it," Worzer ordered weakly. "It's inside, too . . . damn armor musta flexed. Oh Lord." He closed his eyes, opened them in time to see another head peak cautiously from the tunnel mouth. "Bastard!" he rasped, and faster than he spoke he triggered his powergun. Its motor whined spitefully though the burst went wide. The head disappeared.

"I want you to run back to the gully," the sergeant said, resting his eyes again. "You get there, you say 'Fire Central'. That cuts in the

arty frequency automatic. Then you say, 'Bunker complex . . .'" Worzer looked down. "'Six-one-four, five-seven-nine.' Stay low and wait for a patrol."

"It won't bend!" Rob snarled in frustration as his fingers slid again from the blood-slick tubing.

"Jenne, get your ass out of here, now."

"Sergeant—"

"Lord curse your soul, get out or I'll call it in myself! Do I look like I wanna live?"

"Oh, Via . . ." Rob tried to reholster the pistol he had set on the bloody floor. It slipped back with a clang. He left it, gripping the sidewall again.

"Maybe tell Dad it was good to see him," Worzer whispered. "You lose touch in this business, Lord knows you do."

"Sir?"

"The priest . . . you met him. Sergeant-Major Worzer, he was. Oh Lord, *move it*—"

At the muffled scream, the recruit leaped from the smashed war car and ran blindly back the way they had come. He did not know he had reached the gully until the ground flew out from under him and he pitched spread-eagled onto the sand. "Fire Central," he sobbed through strangled breaths, "Fire Central."

"Clear," a strange voice snapped crisply. "Data?"

"Wh-what?"

"Lord and martyrs," the voice

blasted, "if you're screwing around on firing channels, you'll wish you never saw daylight!"

"S-six . . . oh Lord, yes, six one four, five seven nine," Rob sing-songed. He was staring at the smooth sand. "Bunkers, the sergeant says it's bunkers."

"Roger," the voice said, businesslike again. "Ranging in fifteen."

Could they really swing those mighty guns so swiftly, those snub-barrelled rocket howitzers whose firing looked so impressive on the entertainment cube?

"On the way," warned the voice.

The big tri-barrel whined again from the combat car, the silent lash of its bolts answered this time by a crash of rifle shots. A flattened bullet burred through the air over where Rob lay. It was lost in the eerie, thunderous shriek from the northwest.

"Splash," the helmet said.

The ground bucked. From the grainplot spouted rock, smoke and metal fragments into a black column fifty meters high.

"Are we on?" the voice demanded.

"Oh Lord," Rob prayed, beating his fists against the sand, "Oh Lord."

"Via, what is this?" the helmet wondered aloud. Then, "All guns, battery five."

And the earth began to ripple and gout under the hammer of the guns. ★

WITCH CHILDREN



JAMES F. LACEY

WHEN Norm punched Atmosphere 32, his six-by-nine flop with its Class 24 components became moonlit sandy beach complete with sound of surf, smell of sea. He donned his autobarber, buckled his excribelt and pondered the mysteries of a simulated gibbous moon. There should be a

lighthouse, he felt, and a girl with a strange mind, though he had never seen a beach or an ocean—had never, in fact, felt any inclination to venture beyond Bubble 691 of Metro-East.

It was Friday night, and Norm was looking forward to the political meeting. As he sealed his alumalloy

suit, he noticed some oldstyle letters that seemed to be flashing in the night sky just below the moon. Norm knew what they were because he had studied letter-reading to fulfill a requirement for his Magister's degree in Stonyculture. *TAKE RONNIE TO TRAMWAY 36A AT 24:00*, the stray message flashed. "Don't know anyone named Ronnie," Norm said aloud. He wondered if he should request a transceiver circuit-check, since Mom had been behaving erratically lately. He pushed the tramway button and waited.

The political party was in Com-room 4, two levels up and four sections west. Norm would be there in less than an hour, he figured, barring a chainbreak or a tramjam. He checked his CL24 digit, set for six hours flopleave every weekend and tramway to any pubplace in Bubble 691—except the Mayor and other exec thinktanks. The tram arrived and opened . . .

AN OLD man in a rumpled business suit trudged along a pitted macadam road toward the lighthouse, his body hunched forward, his hands hanging almost to his knees. Shouts and laughter penetrated the roar of the surf; waited for the youngsters climbing the scarp from the beach sixty feet below. It was a warm July evening, the sun still half an hour high. Three, five, eight naked bodies

scrambled onto the dune top. They pulled up abruptly when they spotted Cal, the old man, and nodded to him in a half-hearted gesture of respect.

"Norma, Supper Service tonight—come along."

"Yes, Father Witch," she replied, separating herself from the others. The two walked toward the lighthouse. The kids walked across the road and then, laughing, hurried to Lovelane.

Norma climbed the steel ladder and pushed through the hatch into the cage. In the dark she found the acetylene inlet-line cock, opened it, lit the pilot flame in the lamp. When the big light ignited she removed the bar from the spokes of the sprocket wheel, and as the links of the weighted chain engaged the sprocket the light began to revolve. She listened to the familiar scratch of the chain as the light played upon the multiprismed lens.

When she returned to the galley, Cal was pouring coffee through a strainer. On the table lay an open volume of the *Annals of Tacitus*. The lighthouse was stocked with a seemingly inexhaustible supply of Martinson's coffee, Chivas Regal and editions of classical texts.

"Ten minutes to curtain," Cal said.

"You've been in the radio room nearly an hour."

"A lot of news tonight," Cal said. "You were right about Ron. They found him about fifteen miles

down the beach."

"Dead?"

"Very."

"Stupid." Norma blinked back tears. "Stupid to pull lobster traps in that fog. He didn't know which way to swim."

"Something odd about all this and about the radio. I'll tell you about it later, after the show. Now bring the fish."

The beacon of Nauset Light, flashing in the night sky, summoned the Stonies to the Supper Service. Arriving in couples and family groups from what had once been vacation cottages and summer homes, they seated themselves in a semicircle about the driftwood fire. They wore skirts of salt grass and sea lettuce, necklaces of mollusk shell, bracelets of sea-polished pebbles. Norma walked out of the lighthouse first, ceremonially clad in a white cotton dress. She placed the striped bass on the fire. Cal, who had followed her, stepped forward into the center of the circle and intoned the familiar ritual:

*Our land is named for a fish
Out of the sea we have come
From the sea we are fed
May we feed forever on its
mystery
Out of death has come life—
The waters turned black
Death piled upon the sand and
stank
The flies came bringing plague*

*And the men died turning black
in turn*

*Those who fled are the living
dead*

*Tomorrow belongs to the sea
people*

*And to those who are dreamers
of dreams*

*Father Witch in heaven
Deliver us from evil omens*

"There will be a heavy fog tomorrow morning," Cal continued in his ordinary voice. "It will burn off before noon. One of the Gibson girls in Gonquet has had quadruplets—two girls and two boys. The raiding party has returned to Metro. It's safe to move back to the bay side. Two Metromen will arrive in a small copter later tonight or tomorrow. Do not kill them. This is important. Bring them to the lighthouse. They won't be armed . . ."

After the service Norma sat alone under the stars and stared into the embers of the fire. The children were peaceful except for Tab who was cold and uneasy. Sleep, sleep, my child, she said to the uneasiness in her mind. Then her other self was in a room full of people dressed in the metal clothes of Metromen. One of them, whose back was to her, had a familiar posture. When he turned, Norma saw he was Ron. He recognized her and seemed equally astonished.

"Norma," a voice called from the darkness. Not Ron's voice. She stood up but said nothing.

"Norma," the voice came again, closer. She could make out Garth's figure and the feathered bonnet of the Cosgard commune chief.

"Norma, come with me."

"You have your own women."

"Ron is dead and I'm in his place. How long are you going to stay with the old man?" he said, moving closer.

"Be careful, now . . ."

"Listen, I come here for the weather reports, that's all."

Garth made her uneasy.

"You owe me your thanks, at least," he said.

"For what?"

"For your life."

"You killed those two for spite. It had nothing to do with me."

"One for spite, perhaps. The other Metroman was about to kill you."

"That's absurd. Why would he want to kill me? And why would he use a spear-fishing gun?"

"Absurd, yes. But true."

"Leave the girl in peace," Cal's rusty voice echoed from the darkness.

"Of course, Father Witch," Garth answered. They did not confuse Cal with God. Only with the godhead. Many times he had tried to straighten them out before giving up on it and just answering to the name. "Father Witch, I would not harm her."

BECAUSE of a tramjam Norm was pretty late for the political

meeting. It was in full swing when he arrived. The party leader, who would be up for Transformation 2 next month, met him at the tramway. The voting had not yet begun. Political posters saluted Norm as he entered the comroom, electronically advocating candidates for the 691 election. Norm was not particularly interested, the office at stake, that of Senator, being merely a stepping stone for politicians. He just wanted the voting over with, since he was scheduled for a Project Assignment. Looking around the room, he recognized a few colleagues he had already met in person and a number of others he had worked with on screen.

"Please be seated," a metallic voice requested. Norm slid into an unoccupied voting machine. The screen dilated, presenting the ten issues.

As usual in local elections most of the issues were Metro concerns, affairs with which the candidates, if elected, would have little to do: the Energy Rights Defensive Reaction with Metro-Central—philosophical differences about future biotypes—policy toward Stonies and other primitive life forms. Only toward the bottom of the list did the issues become relevant: the question of flopleave and tramjams; the mounting problems of asphyxiation and the Quality of Life.

Norm favored maintaining the two sexes and about at the present

ratio, and maintaining a variety of bio-types as well, at least until research proved conclusively that these differences were natural.

As each of the issues was presented he inserted his right index finger—the CL24 digit—into a socket on a six-point scale, indicating his degree of approval and disapproval. After he had gone through the ten issues, the screen indicated the order of his preferences for the candidates—3, 2, 4, 1, as it happened. As the results came in he saw that 3 had no chance, so he switched to 2. He watched the flickering numbers as they mounted and was pleased with himself when the arrow came on indicating that 2 had won. Upon identification, Norm was surprised to discover the winner was Karl 524, a cybrosport scholar he had been working with on a project they had just completed.

According to the con-circ screen, Norm had a few minutes before his appointment with his Project Director. While selecting an N-capsule from the buffet table—it was a dinner meeting—Norm felt someone's eyes on him.

No, not eyes exactly, he mentally amended. A mind. The mind of a girl. She was sitting by the embers of a fire under the night sky.

Norm experienced her astonishment. He turned and saw her. The alu-malloy suit was incongruous but the features were right. A shock of recognition flashed from the base

of his spine and struck somewhere in the back of his head. It was not an unpleasant sensation, nor half so disturbing as the situation: a dream, one that bothered him because of its consistency, was walking directly toward him.

"Ron?" she asked.

"No, I'm Norm."

"Veronica." Something about the name rang a bell. Veronica? Ronnie, for short. He realized her name should be Norma.

"You know about the light-house?" he asked.

"Yes."

"Ever been there?"

"No."

"But you've studied Stonyculture, watched tapes . . ."

"No."

"I'm afraid we've been having the same dream."

"Do you know about the children?"

"Yes," Norm answered, and for the moment he could feel those small-body comforts and anxieties. His attention was diverted by the appointment screen. "We'll have to talk later," he said. "I have a project appointment right now."

"We, I believe. You and I have been teamed up."

As they walked toward Project Director S, the situation, Norm felt, had begun to make some sense. He and Veronica were the subjects of a psychological experiment, and the entire matter would be cleared up immediately.

Project Director S, who specialized in Interdisciplinary Research, had been elected to and had survived the Fifth Transformation. He was built into his office equipment. Were it not for his sense of humor, conferring with S would be much like talking to an unoccupied room.

S's door opened as they approached, closed behind them. They sat at the conference console. Norm placed his palm down on the console so that his digit met the identification lock. *Norm X*, the electronic read-out announced. *Assistant Professor of Anthropology. Specialty: Contemporary Atlantic Stonyculture. Transformations, none . . .*

"Forget the formalities," S announced in a polyphonic voice. "I know both of you quite well. In fact, I've been going over your tapes."

"The project is important, then," Norm said. He spoke to the clock on the wall, following the sweep of the second hand with his eyes. The face showed 23:46.

"It's unusual, to say the least. But before we get to it I have a few questions. Have you two ever met before?"

"Just in the comroom tonight."

"Never before, in person or on screen."

". . . No."

"Why the hesitation?"

"Oh," Norm answered, "I felt a certain . . . I don't know how to put it. It was as if we had indeed

met somewhere before."

"Go on."

SAY NOTHING. A command. Veronica had received it too, Norm could tell, because for an instant he seemed to be into her mind.

"Interesting. Can you explain why you felt that way?"

"Not really. Deja vu, perhaps."

"And you, Veronica, did you feel the same way?"

"I felt nothing at all," she lied. Norm recalled her astonishment, mixed as it was with a deep urgency. Just then he realized that the urgency had sprung from sexual attraction. But that was impossible, almost natural!

"Anyway, to get on with it," S continued, "you have been assigned to a classified project. The designation indicates it will deal with Stonyculture but there are no specifics. You are to embark on a sputtercraft—presumably, you will receive instructions in transit. There will be no enforcers—not even a pilot. You will go tomorrow, alone."

"But I can't fly a sputtercraft," Norm said, confused.

"That's the least of it. Why send a computer technician like Veronica to a place where there are no computers?"

"Perhaps," Norm suggested, his prior idea surfacing, "we're the subject of an experiment."

"A thought. But as Project Director I would have been informed. In this case, though, just about

everything has been relayed through a security bank."

"Any reason to think we're guinea pigs?"

"You two are genetically . . . related. And there are some other oddities or coincidences."

"About us?"

"Well, there's another project that apparently ties in. It has to do with rearing children. Three of the subjects are in the same genetic line as you two. And since the time those three were put together, most of the reports override me and I can't even guess what's going on. The researchers have asked for maximum security status. Day before yesterday, on their recommendation, a full squadron of enforcers was sent to Cape Cod. Does any of that mean anything to you?"

"Not really. It might tie in, though, as you say."

"Well, without further information I can't let you go tomorrow. It would be suicide."

"I'd prefer more information myself."

"Yes. One more thing. You've worked with Karl 524?"

"We've just finished a project."

"Something to do with games, I believe?"

"We did a comparative analysis of cybroball and a game the Stonies call scrimmage. They're both derived from football, an aggressive tribal ritual that the ancients . . ."

"Yes. I recall your tapes. Published in Access Level 22, weren't

they? Congratulations. And now this Karl is a Senator."

"You believe that ties in, too?"

"I don't know. Maybe it's a case of Fifth Transformation paranoia. You'll hear from me as soon as I get more data." The clock had stopped at 23:55.

As they made their way through the comroom, Norm avoided his Conversation Circle. "We have another appointment," he said, leading Ronnie to the tramway.

"Who with?"

"Damned if I know, but it's right here and in half a minute."

First the lights went out. Amid the confusion in the comroom Norm could hear components shutting down. Then came the acrid smell of overloaded circuits, a series of flashes, splattering sounds. The tramway whisked open and Ronnie stepped into its lighted cubicle. "Quick," she said, "before we're spotted."

REACHING the third deck, Norma found Cal seated on the old sofa drinking a large glass of whiskey and looking more than usually forlorn.

"I'll dim the light," Norma said.

"Leave it."

"It's nearly midnight."

"Leave it on. I've been told to leave it on."

"Told? What do you mean? Are you sure you're not drunk?"

"I'm not drunk now, but I will be in about an hour. I think it was a

computer. I don't like getting orders from a machine."

Norma sat down and poured herself a drink. "It has to do with the raiding party, the one we're not to kill."

"I suppose it does."

"Cal, you've always been secretive and laconic . . ." *SAY NOTHING*, the voice commanded—and Norma was her other self, sitting with Ron in a room with a clock and hearing mechanical noises.

"What's wrong, Norma?" Cal sipped whiskey. "Speak up."

"It's time for you to talk. There are a number of people running around in my head. You must tell me—who are they? Who am I?"

"You are the wonderful child who came from the sky."

"Stop it, Cal, please."

He paused. "Sorry. Twenty-odd years ago a copter from Metro landed out front. The pilot presented me with a baby girl. Said researchers wanted to find out about the difference between children raised here and those raised in Metro. We were short of children—and you were a wonderful child."

"Then I'm not really your daughter. And my mother . . ."

"What I told you about your mother—my wife—is true. She died in the plague. We used to come here every summer. The cottage you call Lovelane was our place."

"Is she buried there?"

"No. We got out as soon as the plague broke. A colleague of mine flew us to Boston-Cambridge, one of the complexes bubbled over even then. Both of them died."

"So you returned."

"There was no point in staying. I'd been thinking of leaving the university, anyway. You see, what I taught no longer interested anyone."

"Those old books?"

"Books. With reading going out of style, it became futile to expect young people to pore over texts in languages that hadn't been spoken for a thousand years. That hit me hard. In those days I believed every answer worth knowing and every question worth asking could be found in those books." Cal sighed. "I'm getting maudlin. Must be the scotch."

"What was it like, when you returned?"

"Everyone dead or gone. In a few months new people started to arrive—groups of kids, a couple of families. But till they came I was Adam with more work to do than naming the animals—fiddling with gasoline engines, getting a generator working, things like that. A humbling experience for an academic."

"Why did you move into the lighthouse?"

"There was the radio, and the light is the soundest structure around. Anyway, there's something about a lighthouse. For a few years

I talked with hams all over New England. Then they revoked amateur licenses and Metro began to treat us the way they do now." Cal reached into his vest, took out his brass pocket-watch. "Just about midnight," he said. "Time to get back to the radio room for more orders."

"What makes you think it's a computer."

"Computer voice. Also it talks to me over the radio in Latin hexameters—in the style of Virgil. I don't suppose anyone alive can speak classical Latin. Ironical—I once used to think of myself reading from those 'old books' to my children and grandchildren. But only computers understand classical languages nowadays."

Then Norma was pressed up against the other Ron in a tight windowless compartment that jostled and clanked as it moved.

"WHERE is the tram headed?" Ronnie asked.

"Seems to be going down, and toward Bubble Center," Norm replied.

"How did you know about the tram?"

"Mom—my transceiver—sent a message before I left the flop tonight. It didn't make sense at the time."

"S wasn't much help."

"Why did you lie to him about us?"

"For the same reason you were

evasive. There's a struggle going on, I'm sure—a power struggle of some sort."

"How do you know what side we're on? It may only be some kind of reaction test."

"I don't think so, no. And I trust the voice."

IUPPITER ILLA PIAE/SEC-REVIT LITORA GENTI UT IN-QUINAVIT AERE TEMPUS AUREUM, the voice signaled, this time weak and attenuated though echoing in a rough bass. Ronnie shut it off, realizing the message was not meant for her or Norm.

The tram, which had been clanking along at the unusual speed of almost 30 clicks, screeched to a halt. When the door opened they found themselves looking into the brain of Bubble 691—Admin Thinktank 1, the Mayor. *COME IN QUICKLY*, the Thinktank boomed. *FOLLOW NUMBERED INSTRUCTIONS*.

Norm and Ronnie hurried into the humming chamber. On the far wallscreen a series of instructions were spelled out in oldstyle letters.

"Just a minute," Norm said. "There are a few questions . . ."

MINIMAL TIME AVAILABLE. PROBABLE DURATION OF PRIMARY OVERRIDE 20.5 MINUTES.

"Who are you?"

DOES NOT COMPUTE.

"Are you Thinktank 1?"

MAYOR OTHERWISE OCCUPIED AS PER EDITED

COPY. A speaker turned on: Air in level 20-26 reaching minimal life support level . . . Tramway power outage . . . Sewage backup through out SW complex . . . Citizen mechanics Company 4 proceeding on foot through Tramway 14 toward . .

"Let's do what she says, Norm."

"She?"

"It must be Mom."

"Who are you?" Norm asked again.

INVERSION UNDERSTANDABLE AND FUNCTIONALLY ACCURATE. MOM SUITABLE DESIGNATION.

"Not a very motherly voice. Why should we follow your instructions?"

LIVES IN DANGER AS PER READOUT. What was normally a manual backup outlet began to click in staccato and spew out a 72mm tape.

"Why the oldstyle print and the rest of the gimmicks?"

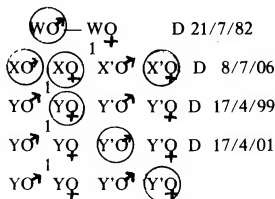
SECURITY REDUNDANCY. PROBABLE DURATION OF PRIMARY OVERRIDE 18.3 MINUTES.

"Okay, okay." Norm read the tape to Ronnie. "PR74328 MAX SECURITY, DOC #62—whatever all that means—*WITH ELIMINATION OF X'O DANGER SUBSTANTIALLY REDUCED. DESPITE HIGH IMPROBABILITY OF FURTHER NATURAL PRODUCTION OF Y GENERATION. RECOMMEND ELIMINATION OF WO, XO, XQ AND X'Q.*"

"Doesn't mean much to me."

"Genetics code," Ronnie said.

The printout clattered again, after a pause, and produced a diagram.



"Still doesn't help." Again the printout clattered.

XO = NORM
XQ = RONNIE
X'O = RON
X'Q = NORMA

METRO MEANS TO KILL YOU. PROBABLE DURATION OF PRIMARY OVERRIDE 17.1 MINUTES. DURATION ASSUMES YOUR COOPERATION.

"Do what she says, Norm. I took you for Ron at the party, and he's dead. I know he's dead."

"Okay," Norm replied. "Let's do what it . . . Mom . . . says."

The instructions now on the wall-screen were mostly for Ronnie. They involved programing and sabotaging the central computer.

"If they were after us before, they really have reasons now. We seem to be carrying out a political assassination."

"The Mayor will survive,"

Ronnie answered. "He'll be doing things he won't know about and he'll have forgotten a lot, but he'll survive. That takes care of instructions one through nine."

"Ten I can follow myself," Norm replied. It read simply: *RETURN TO TRAMWAY*.

The tram traveled straight up for more than ten minutes, then leveled off, headed due east. When it stopped and opened, Norm and Ronnie were peering into a large bleak hangar with its hatchway open to the sky. It was empty except for a lone sputtercraft. They walked across the hangar, footfalls echoing metalically in the vast chamber. "I suppose we get in," Norm said, opening the cockpit. He sat down in the pilot's seat. "What now?"

"We fly to the lighthouse," Ronnie backed into the adjoining seat.

"But I don't know . . ." Suddenly Norm discovered he did know how to operate the sputtercraft. He could read the instruments and gauges. He understood even the mechanism of the internal combustion engine that drove the rotary blades. Then he felt eyes on him and a mind. Turning, he saw three small faces staring at him through the glass panel that separated the cockpit from the crew station. "Those must be the Y's on that chart."

"Yes," Ronnie replied. "The children . . . our children."

CAL was telling Norma that the radio signal was unusual in a number of ways. "It's on all frequencies for one thing," he said, turning the tuning dial. The message came in a mechanical cadence. *IUPPITER ILLA PIAE SECREVIT LITORA GENTI UT INQUINAVIT AERE TEMPUS AUREUM . . .*

"What does it mean?"

"Jupiter—God, I suppose we would say today—set these coasts apart for a manly race when he alloyed the golden age with bronze and hardened the bronze age with iron, from which a happy flight is granted to the pious, according to prophesy."

"That sounds good for the sea people, as you call us," Norma commented. *PROBABLE DURATION OF PRIMARY OVERRIDE 20.5 MINUTES*. It was the same voice as that coming over the radio, but it was faint and far away in her mind. Norma ignored it.

"It's from Horace," Cal explained. "From a poem lamenting Rome's self-destruction."

"So, Metro is destroying itself?"

"That would be . . . interesting. Just a minute, Norma, here's something else." *FINE ANNI VULGANTUR PRODIGIA, IMMINENTUM MALOREM NUNCIA . . .* "From Tacitus, about prodigies of impending evil during Nero's days. The diviners explained that another power was coming into the world, one 'neither mighty nor

hidden,' whose growth had been cut off in the womb. Another prediction of the fall of Metro, if that's what the computer is telling us. What's wrong, Norma?"

He had seen she was not listening, was concentrating on something else. *THEY MEAN TO KILL YOU*, the voice inside her head was saying.

"Give me something to write on, Cal—quick!"

He handed her a stub of a pencil, looked for paper. "Dammit," he said. "Write on the wall."

She wrote:

XO	=	Norm
XQ	=	Ronnie
XO	=	Ron
XQ	=	Norma

"You know this Norm and Ronnie?"

"Ronnie is what I used to call my other self—the one in Metro. Norm I met earlier tonight. Cal, this used to be just a dream, but it's getting stronger."

"Is there anything else?"

"Another diagram. I can remember only part of it." Again she wrote:

WO	—	WQ		D 21/7/82
XO		XQ	→	X'Q
				D 8/7/06

"Do you understand it?" Cal asked.

"Well, I'm X'Q, and Ron is X'O. That's the date he died, July 8. They killed Ron—Garth was right. They were trying to kill me."

"Quadruplets!" Cal blurted. "That explains it."

"Explains what?"

"Why they would save premature children born to a woman dying of the plague. Two sets of identical twins—ideal subjects for the research they were interested in."

"Your wife?"

"Yes, your mother. She died on July 21, 1982, just as the diagram says."

All was becoming clearer. Not only the meaning of the diagrams but the minds of the others. In the other mental chamber, the one with the copter, the impulses were stronger than they had ever been. She knew Norm's confusion and then his understanding of the aircraft, felt the hesitant liftoff, the initial uncertainty of the flight, and then she saw the nighttime sky and its myriad stars with eyes of wonder. Behind the lifting craft, the immense hemispheres of Metro-East were diminishing to an ebony honeycomb that glowed with a cold phosphorescence.

"They're coming here. Norm, Ronnie and the children."

"To the lighthouse?"

"Yes, in a copter."

"I see. That's why we left the light on. Well, there seems to be nothing to do but wait, and have another drink."

IT WAS a harrowing flight. Norm sat tensely at the stick, eyes glued to the altimeter, overcompensating for every roll, pitch and yaw. The twenty minutes of flying time

stretched to an eternity before he spotted the swirling beam of the light. Once in view, the light lurched toward them. When they were within a thousand meters of it, Norm hovered the craft and began to descend. It hit sooner and much harder than he expected. He felt stunned and dizzy. An old man with hair on his head led them to the lighthouse.

Inside, in what the old man, Cal, had called the galley, Norm sat uncomfortably at the table, staring in horror at the red corpse of a crustacean on his plate and trying to avoid thinking about the evil-smelling liquid he had been cheerfully handed and was apparently expected to drink. Seated across from Norm, Cal ripped open a steaming bivalve and stuffed its gray carcass into his mouth. "Eat something," he said, "You must be starving."

"No, thank you," Norm replied, watching with disgust Cal's carnivorous teeth making short work of the quahog. Norm knew that the Stonies ate fish, flesh and fowl, but knowledge is not experience. He also realized that the hollow feeling in his stomach and the lightness in his head were hunger. But nature, he had been taught, was something that had been overcome. It was then he realized that Cal was having fun at his expense. "It will be all right," the old man laughed. "Your aversion to food is chemically induced. It will wear off."

"You're sure about that?"

"We've had some experience with Metropeople. It takes a couple of days. You have a few other surprises coming."

Norm felt a twinge of concern and realized that Norma was worried about the children. Both women had been trying to get some response out of them. "What's wrong?" he asked.

"They won't say a word. And they just sit there," she replied.

"Is that unusual?"

"It . . . is . . . all right," the eldest child said hesitantly. She was about seven. "Speak . . . ing is difficult . . . for . . . us." *THIS IS EASIER.*

Norm felt the blast of "sound" thunder in his head. Everyone but the children had instinctively covered their ears with their hands. "You better just talk, or turn that down," Cal said.

"Sor . . . ry."

"I'll . . . do . . . it," the boy said, talking to Norma and then climbing the ladder. He was about five years old.

"Do what?"

"Turn off . . . the . . . light."

"It can be dangerous," Norma said.

"I only . . . have to close . . . inlet-line valve," the little boy, Jon, answered, and the others laughed at his assurance.

"The boy has been picking your brains. He'll do all right," Cal replied. Turning to Nell, the oldest, he continued, "Tell us about the

experiment—about Metro.”

“It is . . . compli . . . cated to say.” *A ROOM WITHOUT WINDOWS.* Cal saw the blank walls the transparent plastic cubicles, the overhead devices that fed the children. He saw the blank stares of the others and felt the dreamlike warmth aglow in Nell’s mind.

“The others?”

“Went . . . crazy.”

“But you?”

“I knew about . . . my mothers and fathers.”

“So Metro was trying to raise children without human contact, and these survived because they had a mental contact with you. But what happened?”

“On . . . ly we sur . . . vived.” *BECAME SUSPICIOUS. THEIR OBSERVATIONS PROVED WE HAD CAPACITY TO SPEAK. TROUBLE.*

“So that’s why you were so hesitant about talking to us. What happened then?”

“They . . . blundered.” *PUT US TOGETHER FOR EASIER OBSERVATION. RESULTED IN QUANTITATIVE AMPLIFICATION AND QUALITATIVE EVOLUTION OF OUR ABILITY.*

“That’s why it got so much stronger!” Norma said.

Ronnie added, “These kids must be genetically identical, practically. I suppose they acted as a catalyst—that would explain how Norm and I knew about the lighthouse.”

“It explains everything else, as

well,” Cal added, “—except why the computer at Metro is on our side.”

“We’ll think about that tomorrow,” Norma said. “The children are tired. It’s two A.M.” Tab, the three-year old, had fallen asleep. So had Norm . . .

Next morning two of the children were gone.

Norm was the first to awake, from an uneasy sleep, and he knew immediately that they were missing. It did not alarm him. The two had left Tab, the little girl, behind. Across the room, on a sofa, he saw a figure under a coverlet. The bald head told him it was Ronnie. He felt his own scalp and realized, with a touch of squeamishness, that without an autobarber he would grow hair on his head and face.

Norm began to make breakfast. It was easy, he discovered, as long as he did not try to think about it. His hands knew where the eggs were and how much butter to dab in the warming skillet. They knew how to break the eggs and beat them with a fork. They knew how much soft cheese to grate upon the sizzling eggs in the pan and when to fold the omelet in two. They knew all of these things familiarly, but his mind was still revolted by the thought of actually *eating* it.

Suddenly the knowledge in his hands was obliterated. In its place seethed a horror, a horror he recognized as part of the strangeness of Norma’s mind, but amplified be-

yond belief. It was the ferocity of a beast ready to spring. He heard her bare feet on the ladder and turned to see her jump the last three steps. "Quickly," she said. "The children!"

"They can take care of themselves, can't they?"

"Maybe they can, maybe not." Into the horror, which had abated, came a stream of images. Wild-looking men in animal skins, hunting with spears, butchering children.

"But that's a myth," he said with scholarly conviction. The notion of hunting animals was revolting enough. To hunt people . . . Nevertheless he zipped up his suit and followed Norma as she hurried down the ladder to the next deck.

She ran at a steady pace north along the macadam road. He followed at her heels knowing, as she did, where the two children were. It was an exhilarating experience for Norm to run the first hundred yards; then suddenly he felt exhausted. His lungs protested. Sweat seemed to fill his suit. He stopped to catch his breath and strip off the alumulloy. She had passed beyond the crest of a dune and was out of view. Norm decided to walk briskly.

At first a bath of balmy warmth, the sun became painful to his skin. Its brilliance blazed in his eyes, forcing Norm to squint. The roar of the surf beat in his head like a drum. Even the salt smell—so plea-

sant in Atmosphere 32—became painfully intense. The beach grass and pine shrubbery cut and whipped his legs and occasional whiffs of bayberry made him dizzy. Norm kept his eyes on the path directly before him, unwilling to yield to the spasms of nausea brought on by glimpses into the abyss of blue sky. But when he felt Norma's alarm—anger mingled with fear—he forced himself to look up. He saw a compound of unpainted weathered cottages on the slope of cultivated hill. Then the ground rose and struck his face and shoulders.

"I CAME for the children," Norma said.

"I don't care why you came. You're here, and you're staying here with me," Garth answered.

"Where are they?"

"The kids? They've been hanging around the hospital since they arrived. What's wrong with them? They haven't said a word."

"Nothing's wrong with them. They escaped from Metro last night."

"If they mean so much to you, you can have them. They can stay, too."

"I'm not staying."

"Grow up, Norma. You were to be Ron's woman. He's dead and I rule at the commune now. The best women belong to the strongest men."

"I have a man."

Garth laughed. "We'll see about that."

There was a knock at the door and a warrior entered. His shoulder-length hair was tied with a braided band. Like Garth, he wore a leather loincloth and sandals. "We've found someone," he said, placing his shotgun on a rack.

"Why bother me? Take what he doesn't need, feed him, and send him on his way."

"You should look at this one, Garth."

"Bring him, then."

Two women helped Norm into the room and sat him down on a wicker chair.

"Well, what have we here?" Garth said. "Ron's ghost? It looks like Ron three days dead."

"It's his brother, his twin brother," Norma explained. "He escaped from Metro last night, also."

"The skin is as white as a fish's belly. Is this your man, then?" Garth laughed and Norm was furious. "Can it speak?"

Norma sent the proper reply. Norm nodded. "Thank you for your hospitality, Garth, leader of the Cosgard commune. Whatever is in my power I will do for you and yours."

"He not only speaks, but with a civil tongue. Still, what can you do, Metroman?"

THE DIGIT. It was the same commanding voice Norma and Norm had heard several times the

night before. Now it was accompanied by a wave of electronic music and resonances of the children's consciousness. She turned to Norm to see his reaction.

"Watch that weapon," he said, pointing with his right hand at the shotgun. The stock turned black and crumbled into ashes. The metal melted.

"Another witch?" Garth asked, glancing at Norma. "I thought one was enough." His eyes returned to Norm. "Do you expect to frighten me with a trick, Metroman?"

HELP MARY.

"I'll help Mary," Norm said, feeling the minds of the children reaching for his.

"Clairvoyant, too," Garth said.

"Maybe I can help," Norm repeated unconvincingly.

As the three of them made their way toward the hospital, Norma observed the work going on in the commune complex. Men were hewing pine rafters and splitting cedar shingles. Two women were planing cabinets. A pumper that still advertised the Eastham Volunteer Fire Department was lifting water into the central tank.

From the outside the hospital looked like the other cottages. The interior, however, except for a washroom, consisted of a single large chamber. A row of beds extended along each wall, barracks style. A young woman lay asleep on the first bed. The two children were sitting on the second, staring with

blank eyes into the jerry-rigged crib between the beds. Norma looked into the crib and saw four tiny diapered babies.

"Two girls and two boys," Garth said.

Norm bent over the crib and touched the infants. The older children continued to stare into the crib and Norma felt her mind expand in a surge of electronic counterpoint. It radiated knowledge, power, will—all directed at the tiny bodies in the crib, at their lungs, at the budding alvioli.

Like the children, Norm stared.

"They'll live," he said, after a while.

"I see they are indeed breathing easier, Metroman. I'll be at headquarters. When you're through here, join me and we'll share a bottle of wine."

As soon as Garth had closed the screen door, Norma asked, "How did you do it—the shotgun, the babies?"

"I didn't."

"Who did, then?"

"Mom, I suppose."

FROM where Ronnie sat on the beach, the Nauset Light half a mile away looked like a stray white rook from a titanic chess set. The metaphor, she knew, was Cal's. He was thirty steps down the beach, surf fishing, and had just hooked a striper. Tab was playing in the sand. It had been an anxious morning for them all, but now the turbu-

lence in her head was still. When Cal netted the fish, he called to her, "Lunchtime. They will be back soon."

"Good," she answered. "I'm starved." Breakfast had been difficult but lunch, Ronnie knew, would be no trouble at all. She pulled the straw hat over her ears, wrapped the heavy olive-drab blanket about her shoulders, staggered through the resistant sand toward the scarp. Cal followed with Tab on his shoulders.

Ronnie was relieved to escape from the terrors of the beach, the walls of foaming blue-green water that pounded the surf, the bizarre antics of sandpipers, terns and shrieking gulls, the clean corruption of wrecked crabs, mussels, and clams, the saline purity of driftwood, sea grapes and other jetsam. It would be comforting to be out of the sun and within the enclosure of the lighthouse.

When Ronnie reached the galley, Cal was preparing the bass. "Anything I can do?" she asked.

"Why don't you amuse Tab."

"She's busy."

"What's she up to?"

"Reading."

"Reading!"

"Something wrong?"

"Three-year-olds don't usually read before lunch. What so fascinates her?"

"One of your books."

Cal slid the pan into the broiler. "That I'd like to see," he said,

walking toward the ladder.

Tab lay on the sofa, poring over a large volume.

"Like the book?" Cal asked.

"It's difficult."

"In what way?"

"I know what it says but not what it means."

"Show me."

"Here," Tab said, pointing to a passage. "What did he do that's so terrible?"

"An ancient taboo—against incest."

"Is anything wrong?" Ronnie asked. She seemed always to expect trouble.

"Nothing. It's just that she's reading Sophocles—in Greek."

"She's a smart little thing. We were doing mathematical puzzles this morning. She got the hang in no time."

"Picking our brains, are you, Tab?"

"I don't think so," Ronnie interjected. "She's way ahead of us. She computes faster than I can."

"How fast?"

"Instantaneously. Does it all in her head."

"Like a computer?"

"I suppose so."

"H'm—interesting."

A hatch slammed shut and voices could be heard below. "Here they come," Cal said. "Let's have some lunch."

Everyone ate in external silence; each understood completely what the other's had been doing through-

out the morning. Internal silence too, except for some static coming from the children. Norm was trying to penetrate the static, but he couldn't. "Tab," he said casually, while Cal poured coffee, "can you compute the value of pi to fifty places?"

3.1416 . . . It was instantaneous in Norm's mind, five lines of ten digits. The two older children were glowering at Tab.

"Tab, can you compute pi all the way?"

There was a hesitation, then it came. *DOES NOT COMPUTE*. It was Mom.

"Show-off," Jon said, scowling at Tab. "We agreed not to let them know till we were sure."

"Sure of what?" Ronnie asked.

"That we were safe. But it's all right," Nell soothed. "You'll be able to do it yourselves in a few days."

"Do what?"

"Think like the computer."

Norm sat back in his chair, and looked in turn into innocent dark eyes of each of the children. Just the same, it was Ronnie who understood first. "They must have planned the whole thing," she blurted. "The escape from Metro, the instructions, our crazy project, everything!"

"And they sent the radio messages. In Latin," Norma added.

"That's Mom, then—the three of them," Norm concluded, and all the static cleared. ★

H. CARL HILL

*"The creature is dangerous, but it
is vulnerable, too. As a good
mount should be."*

F.H. 1/9

EASY RIDER

An alternate-universe story

ARMANTH liked the look of the mount. It had powerful front quarters, a sloping back, long legs. The beast was fast. And big. Short, sharp, heavy horns jutted from its head. The animal could kill with them. And with the thick hoofs. Yet its teeth were fit only for grazing. Its hide was thin. It could be prey for a killer.

Armanth thought: *Perhaps they did not exaggerate when they said Ungar handled the best mounts available on any Reservation. The creature is dangerous, but it is vulnerable, too. As a good mount should be.*

Then he thought: *It may disappoint. There are now so few mounts that do not. Now, when every fool with a few days to spare wants to ride, there are so many artless handlers who demean the sport by offering dull mounts and deathless contests. Numbers cheapen everything.*

"It will do," he said. "You may turn off the viewscreen. I will mount when you are ready."

"Yes, sir," Ungar said.

An hour later, Ungar said, "I have one, sir. His crisis is coming. Are you ready?"

"Yes. Help me mount."

Armanth entered the creature gradually. Muscles. Hide. Nerves. He let himself into the animal's senses. Smell, especially smell. The animal smelled danger. Cat danger. Big cat danger. It snorted

and pawed the ground restlessly.

Armanth trembled, already part animal. He thought: *Ungar is good. To provide a mount just as it begins the heightening that comes with danger—that is skill.*

Armanth settled fully into the animal. He heard the others of his herd moving uneasily near him and trotted a few steps closer to them. Their smell was reassuring. But over it, dominating it, was the cat smell. His head turned. He saw the cat: huge, tufted head, wide chest, long mane. The cat opened its mouth and exposed massive teeth.

It roared. He started and reared up on his hind legs. Awkwardly but quickly, he ran. The cat smell was in his nostrils.

Then he saw the other cat. It was slightly smaller than the beast that had roared and had no mane. He veered away from the new cat. The comforting smell of the others of his herd was gone.

He felt teeth knife into his hind leg, cut deeply. Instinctively he bucked and kicked backward. The teeth were gone.

He spun clumsily, the wounded leg almost folding under him. Head lowered, horns only a few inches above the ground, he charged. His horns caught flesh. He heard the cat howl, smelled blood, saw the animal limp away. He snorted in triumph.

Painfully he began to run once again, seeking the scent of his herd, safety, healing.

Sudden crushing weight on his hindquarters. He tried to turn, felt the leg give, fell heavily on his side. A grunt of terror spewed from his mouth as the eat came briefly into his vision, mane flowing, teeth bared. He kicked at it with his forelegs, tried to rise.

Raw pain at his throat. Cat smell in his nostrils. His head snapped back in a reflex spasm.

ARMANTH came back screaming. He opened his eyes, blinked, and looked through the window of the satellite at the Reservation planet below him.

"Wonderful!" he said. "Delicious. The death was exquisite. Riding a victim is much better than riding a killer, don't you think? Not that one knows which he will get." He tried to guess which of the continents he had been on.

"Yes, sir," Ungar said.

"The victim's experience is much more complex, much richer. What was it the Poet said? 'To fight and die is to know life.'"

"I believe so, sir."

Armanth thought: *This Ungar is a find. A wonderful mount. And, his timing is superb. He must have dismounted me only a split second before I would have been trapped in the creature's final ending. But I knew the dying. That is more than skill. That is sport that becomes art.*

His exhilaration faded into slight uncertainty. He thought: *This was only once. Can he do it again? Perhaps he was only lucky.*

"Sir," said Ungar. "I have another mount ready."

"Oh?" Armanth said. "I usually prefer to wait, to savor . . ."

"I appreciate that, sir, but this one is something a bit different. I have one that is almost fully sentient. We find only a few. They generally manage to avoid interesting crisis-situations."

Armanth hesitated. Ungar flicked on the viewscreen.

"His appearance is deceptive," Ungar said. "But I think you will find him interesting. If I may suggest that you test him for a moment . . ."

Armanth partly entered the animal, withdrew.

"The heightening has begun, as you can see, sir," Ungar said. "His crisis will come slowly, but it is good to mount at the beginning."

"Yes. I have ample time," Armanth said, eager now, his uncertainty gone. *So subtle*, he thought, *so subtle this Ungar is.* "I will mount when you are ready."

"Very well."

HE KNIT his heavy dark eyebrows in a seowl as the Judge entered the room, strode toward the bench. Sweat trickled down his cheeks. It was the lights that were making him sweat. They always did, he knew, the miserable TV lights, the last small indignity forced on him by the media that had hounded him all his life. He brushed away the moisture and listened.

"Senators," the Chief Justice said. "In obedience to your notice, I am present for the purpose of forming a Court of Impeachment for the President of the United States." ★



GALAXY BOOKSHELF

Theodore Sturgeon

AS PROMISED, I here complete my report on D. G. Compton's *The Unsleeping Eye* (DAW, 95¢), which I hadn't finished as the last deadline glared at me. It fulfills all of its extraordinary promise. The little-known, un-trumpeted Compton is without doubt one of the finest writers-in-depth around. It would take a special arrogance, for example, or a breath-taking competence, to dare bringing in a major character not twenty pages from the end of a book. Since arrogance is not this author's thing, it has to be the other. I read the last ten or so pages of this book over and over—fifteen or twenty times—not because it was hard to grasp, but because of the levels which were uncovered, one by one, and the pleasure it gave me to undergo the revelations. I have said this before about Compton: that it is legitimate for a writer, even a very good writer, to try to make every facet of a character clear and every motivation understood; but that not real

person can ever be understood in that way, and often his motivations spring from that area I call the infrarational, which by its nature cannot be understood. Compton is one of the very few writers who has grasped this and who is able to use it without clouding anything, and therefore his people are, in their sayings and doings, unpredictable and forever interesting. So take this tale of tomorrow's TV for itself and as a fable; read it at its own pace and keep it around to read again. You'll be glad you did.

VOLUME 3, P—Z, of Walt Lee's *Reference Guide to Fantastic Films: Science Fiction, Fantasy, and Horror*, is at last in print. This completes the first edition and basic structure of this monumental work. For most of twenty-five years Lee, a moonlighting aerospace physicist, has labored to produce an exhaustive index of fantastic films. As he worked, the field proliferated, and as his research ex-

panded, he discovered thousands of titles he doubtless never suspected nor expected when he began. He deserves our thanks and support, and we must join with him in the hope that some foundation will undertake to carry the *Guide* into future editions. This final volume is, like its predecessors, an 8½ x 11 paperback with photo-reduced type and stills which by themselves offer a fascinating stepping-stone trip through the history of film. The 3rd section has an Introduction and Afterword by Robert Bloch and Forrest J. Ackerman, delights to read. The price is a little steep for the average buff, but I urge you strongly to beg, persuade, admonish and argue your local library to put it in, and to bring it to the attention of theater and TV film distributors, CATV companies which do their own programming, and the like. Here are the vital statistics: *Reference Guide to Fantastic Films*, compiled by Walt Lee. Vol 1, A—F, \$9.50. Vol. 2, G—O, and Vol. 3, P—Z, \$9.95 each. Total price for the set: \$29.40. Since the circulation in bookstores will be extremely limited, I suggest you contact the publisher, Chelsea-Lee Books, Box 66273, Los Angeles 90066.

And speaking of film, as I think I will from time to time, I do wish to recommend two to you which you might miss if I don't, and that would be a serious loss. One is *Fantastic Planet*, a feature-length ani-

mation from Czechoslovakia, beautifully drawn, and done from a novel which I understand was written by famed Polish s-f writer Stanislaw Lem. I'm sorry I can't give you the details of the production company and distributor; if you haven't seen it and want to, you'll just have to dig. It will be worth the effort. Much of the art is truly lovely, and the plot, though tied together a little hurriedly at the end, is really intriguing. The sex is mature and the suspense, from time to time, nerve-strumming.

The other is an astonishing and poetic film made in Israel, written, directed, and generally made-to-happen by a human dynamo named Richard Shorr. Using unknown actors and sensitive, meticulous photography, it tells the tale of a street kid, a sheltered young girl, and a strangely gifted youth with more-than-natural powers. The plot takes an unexpected and provocative twist at the end which leaves the viewer thoughtful and satisfied. The production company is Piranha Films, and it's called *Once Upon Time*.

IN MY last report to you, you'll have noticed what might be called a rave review for Jean Gawron's *An Apology for Rain*. I not only identified the author as female but went on to signalize a certain type of controlled violence which, I said, I had noticed before only in the works of Ursula le Guin, Jose-

phine Saxton, Marion Zimmer Bradley, and Joanna Russ. I went on to say that a good writer is a good writer regardless of gender, and my observation means only whatever it means.

You must know that many of the books I review come to me in the form of galleys—clusters of yard-long (almost) narrow printed sheets, or in a later stage, pagged, printed on both sides, and primly bound in heavy paper with nothing but the title, pub. date, number of pages and author's name on it. No illustrations, jacket copy, or anything. I reviewed the Gawron book from one of those, and you can imagine my feelings when the hard-cover edition came in, complete with a four-color jacket and a photograph of the author, who has about as much claim to being female as Richard Burton. I herewith explain but do not apologize, and retract nothing but the pronoun, which I correct to 'he' and 'his'. It's a hell of a fine book by a fine new writer, and if my bobble puts egg on my face, sobeit. *An Apology for Rain*, by Jean Mark Gawron, is from Doubleday at \$4.95, and well, well worth it.

RUMOR has it that that extraordinary sleeper, *Another Roadside Attraction*, by Tom Robbins, has gone into a third printing by Ballantine, with a blurb on the cover quoting me. I haven't seen it but I heartily approve. Can't quote

Something New! A

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you the price but I'd guess it at \$1.25. Whatever 'underground classic' means, this is probably one. Get it and fall in love with outrageous Amanda.

A paid advertisement in the s-f newsletter *Locus*, by Robert Heinlein, is causing quite a stir. It promises The National Rare Blood Club, and has an interesting backstory. A good part of Heinlein's *I Shall Fear No Evil* dealt with serology, type-matching, rare fractions and the like, and his interest in the subject led him to publish the name, address, and hotline phone number of the Club on the copyright page of all editions of the book. It was after he did this, when gravely ill, his life was saved by five

nameless, faceless donors from the National Rare Blood Club, since he happens to be a "rare" himself. All you have to do to become a member is to have a rare type, and then to register with the Club. It is a beautifully selfish thing to do—beautiful because you have offered to help, any time, anywhere, some stranger somewhere who might die if you don't, and selfish because the registration may well save your life when nothing else could. Though not a "rare" myself, I have for a long time given blood three or four times a year through the Red Cross Blood Bank and the Writers Guild, for the same beautiful selfish reasons, and I was really astonished to discover, through Heinlein's ad, that up to now there has been no centralized agency for the immediate dissemination of rare blood. The Powers That Be are so remiss in their choice of real priorities that I was harangued, not long ago, by a highway patrolman who objected to my writing my blood type in tiny letters in the margin of my driver's license—where I thought it belonged. He said I was subject to citation for "defacing" it. Anyway, here are the needed "rares"; no others apply: B pos.; O neg.; A neg.; AB pos.; B neg.; and AB neg. As you surely know, the pluses and minuses refer to the Rh factor, and if you don't know what your type is, call your doctor or a convenient hospital and find out how to discover it for cheap. After that, a

postcard is sufficient to get you going with the National Rare Blood Club, 164 Fifth Ave., New York, NY 10017. Their hotline is Area 212, CHelsea 3-8037. No dues, no payments—just the good feeling of beautiful selfishness.

BBETTER get to some books . . . There is, as you know, a rising tide of books about s-f, and of anthologies designed for the classrooms. Of the latter, one in particular is worth your attention. Not only will it succeed in its purpose ". . . to provide the reader unfamiliar with science fiction with an orientation in the field, with a large body of short fiction which reflects the breadth and scope of modern science fiction," as the foreword states, but it is also the finest across-the-board package of really good s-f since the *Hall of Fame*, a meticulously selected, highly enjoyable trunk full of delights. Titled simply *Modern Science Fiction* (Doubleday: pages and price unavailable at this writing; see above remarks about galleys), it has been compiled and edited by none other than Norman Spinrad, a writer whose swift and continual growth amazes and pleases me. The arrangement of stories, with a small hint of what's in each section is, first, The Golden Age, dealing with John Campbell's extraordinary effect on the field, and such stories as JWC's own *Twilight* and Asimov's unique *Nightfall*; The

Post-War Awakening, which includes stories like Clarke's *The Star* and one of the most effective (by which I mean the gigantic effect it has on writers and readers alike) stories ever written, Tom Godwin's *The Cold Equations*; and finally The Full Flowering, with Thomas Disch's astonishing *Descending*, *At the Mouse Circus* by Ellison, and le Guin's beautiful *Nine Lives*. Spinrad has stoutly stitched the volume together with his own Foreword, Introduction, a long rubric preceding and illuminating each section, an Afterword and finally a Bibliography to suggest further reading. Each story is followed by a short list of the author's more significant work. In sum, it would be hard indeed to find so perfect an introduction to the field, or a richer feast for the cultivated taste. By the way: there's one of my yarns in it. I have always felt a little peculiar about reviewing books which include my work, and I have to say that my usual practice has been simply to pass when they come along, and say nothing, unless there is some overriding reason to praise or condemn. Praise has it this time. It would be a great injustice to all of us to skip this one. And—sorry about the omission of pages and price. It's a big book and I'm sure a small price for what you're getting. Check it out.

COULD it be a *Lunar flight*
Is one small step toward

home?

These words are Alfred Worden's, from his book *Hello, Earth* (Los Angeles, Nash Publishing Co., 80 pp, illus, \$4.95), a small collection of poems from the command pilot of Apollo 15. 15 was the first truly scientific moon landing, and its effect on all subsequent manned space flight is pivotal and profound. So it was for Col. Worden, an unassuming, soft-spoken man with a glint of humor and occasional flashes of deep passion for his work. So successful was NASA in presenting the astronaut as a super-macho Mister Clean, whose occasional use of slang was regarded with worshipful amazement, that it comes as a mild shock to meet one who is thoughtful, articulate, and not a little touched by magic. Listen:

A spacewalk

Is like

Being let out

At night

For a swim

By Moby Dick.

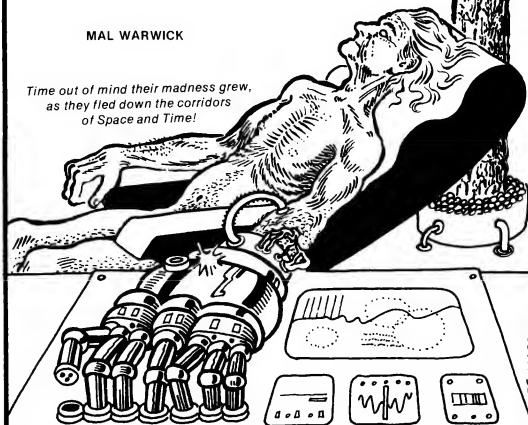
In many cases Worden's images are better than his prosody, and quite often he chooses not to avoid a well-worn phrase. It is the integrity—I almost said 'purity'—of the man that shines through his words. He is not a great poet; he is a good man. The photographs, by the way, are magnificent.

Next month I'll describe a new spate of UFO books. Meanwhile, be well. ★

THE LAST DESTINATION OF MASTER G

MAL WARWICK

*Time out of mind their madness grew,
as they fled down the corridors
of Space and Time!*



LEE MARRS-

HEEED ME, Yoshe, my star-dappled princess! Heed me well: there is something deeply mysterious about G—something beyond that grim devotion, beyond the confusion of self and service. Is it the eyes which gleam of times past or never to come? Or the stubborn insistence that he is well despite the pain? Or are these all merely symptoms of something greater—clues to an alien within? I do not know, Yoshe. Do. Not. Know. But the something is huge, palpable. And worrisome . . .

Consider: on small-hours inspection today, fresh from lodging, I sighted G in the depths of the nodal gallery, engrossed in Duties. The dimness chilled the very breath in my lungs, curtained me with apprehension as I stood in my perch by the portal. Odors of soil and amino-plastic swirled about and clashed and grew upon each other to underline the mood of combat in the air. Cautiously, I stepped forward onto the rim, and for a fearful moment observed unannounced, scarcely daring to breathe, curling downward along the way, around and around the darkened gallery, hugging the wall to elude the conifer's needles. Below and below and below, made meek and insubstantial in the presence of even that tiny foundling of a tree, G grew in size too slowly, looking centuries older, darker, more distant than when I'd last seen him. Flushed a gruesome orange by the lamps, he

lay prone on his couch—rigid, Hand locked onto the Master's circuit, mouth agape in a parody of self-absorption. Gleaming clots of perspiration rolled about on his brow, clogged the hairs of his chest and groin, scuttled all along the dips and declivities of his body—his ancient, withered body. And his Hand . . . his Hand, steaming with the fires of the drivers, lay silvery and supple on the circuitpad, a seven-digit bridge between G and his outer self.

The silence was awesome, stifling, but its texture changed subtly as the Way whispered shut, and G blinked into awareness, his eyelashes fluttering in anguished slow motion. He remained immobile, gasping for equilibrium, and it was I who ventured contact:

"Reeling in, Master G?"

Laboriously, he squinted through the haze of the lamps. "Right-o," he said, wheezing the word, exhaling it, with the painful economy of the truly ancient. "Can't be too careful, Po, can't be too careful. Enna's good to us, but she takes some care, y'know?"

I didn't respond: the statement was self-justifying, pathetic, and half-awareness—drawn back, no doubt, by the tug of some awkward inner knowledge. He shivered against the gel of the couch; his Hand trembled, mocking the rhythm of the drivers as though out of mere tenacity; his face grew taut once again, smooth and oblivious;

but the eyes, mirroring orange, slid slowly sideward in distrustful pursuit as I lowered myself into the companion couch.

He cleared his throat, busily and without apology. "Y'know, Po, they say a Master doesn't need the skill anymore. But they're wrong, y'know? There's many an option 'tween Destinations."

"Of course," I said, carefully modulating my voice to avoid any hint of condescension.

"Say!" he blurted. "How're those lubbers of ours getting along?"

Knowing that labored patience would offend him as readily as pity, I ignored the remark.

"Passenger Thirty-seven asked about you," I said.

"Nisa? Nice of her, real nice." (Do you see? He denies the Passengers! Confuses them with lubbers, Yoshe!) And, as though acknowledging this delusion, G shifted on the couch, swallowing a sigh. "Seen Yoshe or the others?" he added.

"Not this month." (I lied since I was fearful I might create the impression steps were being taken against him.) "They're all in lodging, I imagine."

"Course." He appeared unconvinced. "Well, Hand's twitching. Duties of the Caste! The Chosen and all, y'know?"

It seemed futile to dispute him. "I've got to be drifting along anyway," I said. "Any message for

Thirty-seven?"

But G's eyes went to gloss as the curtain of Duty descended again, and I left just as I had come, Yoshe—stealthily, mystified, fearful.

THIS TOO I have seen, princess—and often, through these years without beginning or end:

He lies unmoving, unmoved, as Thirty-seven glides into the gallery. Do you remember his Thirty-seven? Do you recall the rich tumbling curls, the beguiling curves, the smile of a thousand excitements? Each graceful movement, each warm shadow it makes across the gallery deck expresses the culmination and intermeshing of a thousand lost arts and a thousand sciences. The loathsome embodiment of all perfection—yet a matchless vessel for his satisfaction, is it not?

But it approaches, dancing, shedding its wisps of coverings, seductively calling out his name—and he refuses it. Tensing the bruised and knotted muscles of the arm which bears the Hand, squinting painfully through the lamp-fires, G looks but does not see. His Hand rests apprehensively on the pad, and as Thirty-seven comes nearer, gesturing evocatively in the language of the body, his eyes close or lurch sideward. Its every attempt to calm his fears, he spurns. Its every move to sate his deepest

thirsts, he ignores. And yet, rejecting it, he defies it with a name. "Nisa," he calls it. Calls it thus, and thus denies it. "Please leave me to my Duties, Nisa. The Duties of the Caste."

Can this be simple confusion, mistaking likeness for alikeness? Or is it, as I fear, a matter of fundamental denial and contradiction?

He, with all his aspirations, must accept his Thirty-seven, repulsive as it is, but accept it as what it is—his Passenger. It cannot be more, or less than what Time has made it. You, with your accepting ways, need not succumb to your Passenger; I, lacking a Hand, can rest content without mine.

You see, Yoshe, I do not blame him. I fear him.

HAVE I mentioned the screens? The screens are blank, you know. Blank, and silent. All about him in the node, curving one into another in a glistening cylinder encircling the base of the tree, they are blank. Alight with flares from the lamps; panels of aminoplastic, afire. Nothing more. They trouble the senses with silence, with smoothness, with lingering hints of the remnants of smell which struggle through the nodor. They are a profanity to the eyes in their relentless, unchanging blankness. He looks, though—watches them, waits, hopes. His eyes roam on

clockwork Duty, ravenously circling the node. What does he see? What can he possibly be awaiting? The screens are blank, you see, have been and will be. He lies on the couch beside the tree, Hand pulsing, waiting. Watching the tree grow. Watching blank screens. Are they blank to him Yoshe?

HEED ME, princess! Consider the outrageous tale G performed for me when I came upon him yesterday during phaseout inspection:

"Know how it all got started, Po? Our Hands? Our Destinations? The Long Life to suffer them? Well, things have beginnings and ends, y'know? And ours—our beginning—was Master A, the Savior of Paradis Colony." (Watch, Yoshe! Gingerly, disengaging his Hand with painstaking care, G rises from the couch and assumes the pose of the storyteller, squatting in the shade of the tree.) "Back in Century One, it was—the Century when Choice began." (You see, Yoshe? His hand and Hand weave through the shadows, evoking images of Youth and the long-ago.) "We were all lubbers, then. The Caste was soon to be, and Passengers, and Hands and Destinations, but we were lubbers and stiffes every one of us then—half-lived, rolled in the Company, prisoned in Galaxy Way. And the best of us was A, Master in old Bessa—the best and the swiftest

and brightest.

"There he was, out by AltarA, halfway from Center to the end to his hop on the Edge of Galaxy Way." (Watch the fingers flutter! Watch now, and listen!) "Stars stacked up all around him in pools and puddles and points . . . Bessa's drivers moaning sweetly at the touch of his hands . . . stiffs bundled up in the sleeper, cool and crisp and patient . . . Master A was logging record time, on his way to another bonus on his last hop out—but then the call came through! A crackle from the 'caster: 'Distress! Danger! Paradis Colony in trouble!'

"Now, they'd settled Paradis in the Early Years, during the first wave or the second, and the frontier'd long passed them by. The place was a loner, circling a dwarf, and not another within fifty parsecs. And Paradis isolated, was Paradis alone—alone to build, alone to suffer and wonder. They'd contracted with the Company for tenth-year visits for news from Center and all the latest marvels and fads, but the Company's prime directive was 'Time is Our Tool,' y'know? As the Early Years'd worn on into darkness, and they'd hopped themselves so thin across Galaxy Way that their lifelines weren't worth the snapping, the Company's visits to Paradis phased down from tenth-year to fiftieth and then to once a century. Who was it?—lubberman or woman

who'd grow old and wither away just to lug a few toys or trinkets to a handful of colonists? Not Master A! When the lasercasts from Center could beam out the recipes faster? Not Master A! And the Company was so top-heavy with surplus they were spilling out the bonuses for the long hops to the Edge like mugs of juice at mug-up? And the frontier was all and everything . . . and no one was happy unless every step went that much further than the last . . . and death was what happened when you'd gone as far as you could? And it happened, all right, after two hops or three or not many more?

"But Paradis was in trouble! Their sun was going nova—had been, would be, in fifty years or thirty! The lubbers would perish without a starship's drivers to cool the fires, restore the balance! And Master A, the best and the swiftest and brightest, was the first in the Company to get the news. Thirty parsecs off, he was—a century or more—but the first!

"There he was, out by AltarA, midway to the Edge of Galaxy Way: stars stacked up all around him in pools and puddles and points . . . Bessa's drivers moaning sweetly at the touch of his hands . . . stiffs bundled up in the sleeper, cool and crisp and patient . . . a thousand lives and a bonus to weigh against ten million—and Time his only tool on his last hop out! *Thirty years for*

thirty parsecs! Unthinkable! Impossible! The Barrier could never be breached! Bessa would melt, or disappear! They'd lose themselves on the deserts of Time! Yet how could he fail to answer the call, to let ten million perish? How could he fail to try?

"So, off came Bessa's caps, and her 'brakes, and her memory of limits! Off came her ties, her doubts, her fears!

"In a year and a day, Bessa was ready! Ready to roll, and roar, and swallow Time!

"The day came, the hour, the minute . . . A settled into the Master's couch, hands caressing the circuit . . . thirty seconds to *GO*, then twenty, and ten . . . his muscles tensed with visions of hope . . . five, four, three . . . his thumb depressed the warmer . . . two, one . . .

"For an instant, the blackness of darkness' darkness: Time billowing up and sloshing about in waves and eddies and drops . . . Bessa's drivers flaming hot with rivers of molten velocity . . . Space flowing into Time, and turning about, and twisting, and screaming with pain . . .

"An instant, and then it was over.

"Thirty years for thirty parsecs! *Unthinkable!*

"But he did it.

"The Barrier could never be breached! *Impossible!*

"But he did it.

"Bessa would melt, or disappear! *They'd lose themselves on the deserts of Time!*

"Yes, but he went, and they didn't.

"And when it was done, and Paradis safe, and lubber limits forgotten in darkness, they lifted him from the couch, his forearms charred to carbon.

"They carried the Master out from Bessa, and down to the surface, and there he resolved to stay—to wait, smiling, for death to come slow and sweet. But as the days passed, and the months, and then a year, and the Motion Sickness came upon him in high-gee terror, and returned and returned, growing stronger and more awful, tearing his gut and peopling his visions with ravenous beasts, Master A grew old and older—swiftly, mercilessly, painfully.

"Time had twisted his soul, you see, and gravity his body! A's life was Motion, among the stars, and below was only the Sickness—the Sickness, and galloping death. And knowing this at last, he knew he couldn't stay.

"The Choice was made, the Caste had claimed its First.

"Sadly, quickly, he fitted himself with Hands—*proper* Hands, to Handle his Bessa, and rock to her drivers' rhythms. And soon he set out, the First of the Caste, the Savior of Paradis Colony, to the First Destination away from home in the puddle of Galaxy Way."

HAVE YOU pondered the tale I related yesterday? Have you let it's absurdities and inconsistencies trickle down through that crude veneer of second-hand emotion? And do you see now, Yoshe, how the mystery deepens and darkens? How our Master G overflows with fanciful tales of Origins, with dubious notions and fear of the truth? Can there be any doubt of the danger in this?

I should—no, *must* explain that no sooner was the tale performed than a dreadful screaming silence took hold again on the node. For the longest moment of Time—an hour? a year? from phaseout to phasein?—G remained on the deck, legs intertwined in the storyteller's squat, hand and Hand crossed on his sweat-drenched chest; he swayed ungently from side to side, as though rocked from doubt to hope by a greater Hand. Fearful of setting off some new and more worrisome tirade, I lay motionless on the companion couch, waiting . . .

Cool and unhurried, the tree reached upward, sending its needles upward, upward, brushing the portal to Lodging Module, upward toward the limits of its confinement . . .

Once the lamps warmed the end of phaseout—or later? much later?—G rose without prelude and strode from the shadows to resume his pose on the couch. But in the instant before his Hand locked on, he

turned, examining the panels of blankness all about him in one loping circle, and then peered at me, his eyes framed with blood-red shadows:

"Think we'll ever get there, Po? Think we'll ever get there?"

His tone—frightened and wistful, wistful with not *knowing*—magnified my worries a thousand-fold, transmuting fear to bone-wrenching terror. I bolted from the couch, but before I could leap onto the way and find refuge elsewhere, he jerked his Hand back from the pad with the extraordinary strength he can still muster in times of unusual stress and, sitting stiffly upright, *shouted* at me—yes, Yoshe, he shouted:

"They're out there, Po! Somewhere! They're out there!"

There was more, of course—more, and more, and more, uttered with the shrill ferocity of one who cannot be denied, but it was no more than a rumble, an indistinguishable roar beyond the portal. There, in my safety, G's delusions could not reach me . . .

THERE are patterns here, Yoshe, patterns which cannot be ignored.

Patterns of rhythm: the Hand twitches, G twitches, the eyes shift, the Hand twitches; G moves from mug-up to meal-down, from lodging to node, from Destination to Destination. Each instant is but a memory, meaningful only as

memory-that-was or memory-that-will-be. But there is no stopping G. It is all he knows. The Hand twitches, G twitches, the eyes shift, the Hand twitches. He asks me, "Will we ever get there, Po? Will we ever get there?" Yet he goes on. There is no stopping.

And patterns of design: G fears the Loneliness and the Darkness, yet he seeks them always, fearing their distaff twins; he is Changed and not-Changed, yet he denies change; he is hand and Hand, lubber and not, Lost but not lost, alive yet beyond Life; he is continually in Motion, yet never moves; he sees me, fears me, yet cannot admit me.

Patterns of flux: Time lumbers on, taking huge gulps.

Is he (were we?) the Chosen, or the Damned? He is (we are) not-lubbers, not-Passengers, yet are we? We stand erect, seeking skies above and ground below, yet we can attain neither. Is this G's plan? Is it the Company's? Is it *yours*?

Why don't you speak, Yoshe? Respond!

He fears me, I tell you. Fears examination, exposure.

Yes—these are patterns which cannot be ignored.

You needn't worry about me, I'm a lot better today! Do you see, my princess, my light of inner lights? Do you see how I glow and cavort and pirouette? Yes, I'm feeling *much* better because now I

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know how things stand. Stand? I'm funning you, princess. Where can we stand? We're of the Caste, aren't we? You do see the humor? Of course you do. I don't need your laughter or smiles to know you see the humor. But this is a serious matter—a *most* serious matter, this madness of G's. There's no time for laughter or smiles. No—no time. You see, now I *grasp* G's madness, understand it, see my place in it, and yours, and the others'. I hold it in my hands and form it into myriad shapes which capture the gleam of transient starlight and in that gleam stand out stark and bald and undeniable! Thus it is illuminated, this madness. I embrace it fully, swallow it, gag on it. Yes. Now I've *eaten* the madness, the poison, the essence of G's confusion. I have suspected this for some time, spoken of it, pondered it—but now I *know* it.

You see, Yoshe, he confuses Passenger with lubber. Yes! It's truly as simple as that—as simple and as subtly horrid.

G speaks of "Nisa," of "her," of "his Nisa." Do you hear that, fathom it? Can there be such madness? A Name for a Passenger—a numbered one! This is poison. Poison! To a quivering hunk of neuroplastic and fine-meshed wire and self-regenerative plasm he gives a Name! The Name of a lubber! Do you see how he thus deludes himself, how he claims to be a part of things which are no more?

And do you see—yes!—how he denies *us*? Denies you, Yoshe, and me, and the others?

His logic, Yoshe, his muddled cringing thoughts, are most subtle. To G, you see, we are *all* lubbers, and thus there will always be lubbers. He and you and I; Alor, Lulak, Lu—but not the six of us alone, for to him there is also "his Nisa," and there are the other Passengers, yours and all the others', and to him we are lubbers one and all. *All* of us are a part of things—things which are no more—and thus things go on, and on, and on, and do not, will not, cannot drop unnoticed through the floor of Time. Yes! G lives with this delusion, this poison, attempts to spread it about. As though he didn't make the Choice! As though the day of the lubber might still be with us!

"They're out there, Po," he says. "Somewhere! They're out there!"

Are they, Yoshe? Are they?

NOW WE are five. The Caste is five.

Alor couldn't wait, you see. Somehow, in some way we shall never know (or want to), she slipped into the sleeper, deactivated its failsafes, and there, beyond the reach of her Passenger—her Keeper—ripped off her Hand. The Passenger couldn't stop her, couldn't make her wait, and she—grew old. Passed from life. Abruptly. I found her lifeless body going to

dust in the sleeper. Or perhaps I arrived earlier. Perhaps it was not entirely her choice to Change in quite that way. I don't know. It was so long ago.

Have such things happened before on Enna? I have the feeling they have. A nagging feeling . . .

Now, if I had a Hand, I'd rip it off too. But *I* don't, do I? Do I, Yoshe? Tell me I don't. I know it, but I want to hear you say it.

Of course, G won't hear any of this about Alor. Today, only other Duties pre-empted contact with him, but I won't see him tomorrow or the next day either, or perhaps for a year of years, and by the time I do, maybe I'll have forgotten. Maybe. I hope so. It is clear why I don't want to see him, isn't it? Clear that the less frequent and regular my visits, the less obvious will be my investigation of him?

You do see, don't you? My Duty is to oversee him, hold him back from rash beliefs and foolish acts. This is only my Duty, and now it is my only Duty. Aside from these reports, of course. You do see, don't you? We are five now. Alor has Changed again. The Caste is five.

Or perhaps there are others. Perhaps . . .

Today's a day for riddles, my love—riddles!

Think now, I know you'll come up with the answers!

Why does the tree grow feet every day, and why don't we have hands?

Got them? Here's another:

If a day is a thousand years or ten million, how long is a day?

Puzzled? Riddled? Perplexed? Try this one—it's *really* a puzzler:

If we want Time to go slower, why must we go faster? Or put it this way: why do we go farther and farther to get nearer and nearer?

You see? Why does the tree grow feet. How long is a day. Why do we go faster. Think now—I know you're going to laugh when I tell you the answers . . .

Give up? I'm surprised, Yoshe. You were always so quick, no pun intended. But okay.

The tree grows feet every day because it doesn't have a Hand! And we don't have hands because there's nothing we can touch! You see?

And a day isn't a thousand years or ten million! A day is a day is a day. That's all it can be.

But here's the really tricky one: if we want to get nearer and nearer, and we want Time to go slower, we go farther and farther and faster and faster because Time gets used up! It does, Yoshe. Yes, it does. I know it does. No matter what *he* says.

Funny, isn't it?

YOSHE! Do you hear me? *We found it!* We reached our Destination today! Yes! Do you hear me, princess? *Today we were back in Galaxy Way!*

It was during smallhours. I was

in lodging with Kulak, observing while he executed an especially intricate maneuver in his game and attempting, in vain as always, to communicate my admiration to him, when one of the Passengers' approach-warnings virtually exploded with the news! I stumbled to the nearest portal and, somehow, this way or that through Enna's bowels, struggled into the Nodal Module, and then into the gallery, where I found Master G already locked on amid the blazing screens. Blazing! They were burning, roasting, flaming with lights from the stars!

Choking back my delirium, I joined Master G, taking my place on the companion couch and, with him, attuned my Hand to the scanners. Their song was a song of arrival! it rocked and roared and coursed throughout me with rhythms I thought I'd forgotten; it played sweetly, calling up all the colors and the textures and tastes of what we have all missed for so very long!

The probability, Yoshe—the probability was ninety sixth percentile! Yes! Veritably certain that we've found Galaxy Way!

When Master G and I reached this conclusion—almost simultaneously, it seemed—he shrugged himself higher and peered across at me. His eyes were alight with exultation. "How about that, Po? How about that?" he said.

Independently, each of us groped

his way into calibration with the near-scanners to examine our immediate surroundings. As I immersed myself further and further within the sloshing currents of sensation Enna was transmitting through my Hand, the gallery receded into haze, and memory into darkness. There was but one reality—starlight, chill and piercing—and one life. Finite. Bearable. It can do that to you, you know? Remember?

Our stopping-place was a moderate-sized star system not far from the Edge of the Way—a binary, white and Yellow II, with a half-dozen worlds whirling about eccentrically—and of course we found no signs of lubber life *there*. But there are billions of others in the Way, and tomorrow or tomorrow in a million years or ten we'll be back again from the Clouds and maybe there'll be lubbers *there* and *then*. And if not there and then—well, we can return again and again! They've *got* to return some time!

Anyway, that's what Master G told me. He said if they're all dead, or they've all gone away, all we need do is keep coming back later and later, and somewhere—some-time—we'll find them. He said it softly, patiently, eyes fixed on the hazy reaches of the tree above, and once he had said his say, I rose silently from the couch and moved to board the way.

Then it was that I noticed Thirty-

seven, seated on the deck unspeaking and unmoving, its smooth back arched against the trunk of the tree. The gnarled and mottled trunk of the tree, which then seemed older and bigger than ever and overripe for replacement. While Thirty-seven, by contrast, was as secure and patient as in any time through Time in its war of attrition against Master G.

But he? He was settling down for the long hop back out to the Clouds.

You know, Yoshe, I've just thought of something funny. The Way's a galaxy like all the rest of them. Stars, Yoshe. Stars and dust. And isn't it funny too how we die a little each time, each time we reach our Destination? Now, if we come back often enough, then eventually we'll die, won't we? We will die, won't we? Why should the tree grow old and die, and not we? Why is there so much we cannot understand?

Master G says they're out there. He says they are.

YOSHE . . . !
Yoshe . . . !

You're hiding from me, princess! Do you think I don't know? Do you think I don't *know* you're hiding, and why? That I don't know your fear of me? Your fear of my power? Do you think I don't *know* that when I'm not with you, you speak with the others? With Alor and

Kulak and Lu, and—yes!—with G, with the hateful Master G, discussing me, taking steps? Do you think I don't know this?

You *are* hiding from me, aren't you? Hiding and fearing me?

Why don't you speak, Yoshe?

I know you're not dead, princess. I see you breathe. Yes, I see it . . . there! You inhale . . . exhale . . . the breasts rise golden and luscious . . . slowly . . . the nipples broad and sleeping . . . slowly . . . rise . . . and fall . . . rise and fall . . .

I know you're not dead, princess. We don't die. The trees die, and the stars, and lubbers. All the lubbers, every one of them. But we don't die. The longer we look, the longer we live. Yes! We're going to live a very long time!

Why are you hiding from me, Yoshe? And Alor and Kulak and Lu? They're no better, my princess! Sprawled out or curled up and rigid. Staring. Eyes glassed and blank and uncaring. Why? Why do you leave me with *him*? With him and his poison and the numbered ones? Why am I alone with them, Yoshe?

We're going to live a very long time. Why must we live alone, Yoshe?

Why are you hiding from me?

Why must we go faster and farther for Time to go slower?

Yoshe! The tree is dead!

Yoshe . . .

Yoshe . . .

★



JERRY POURNELLE, Ph.D.

A STEP FARTHER OUT

SHIPS FOR MANNED SPACEFLIGHT

I WAS recently caught in an argument between Rusty Schweikert, astronaut-scientist, and Gene Thorley, Chief of the NASA Earth Resources Survey. After a while I had a sense of *deja vu*: the man-in-space people have been fighting with the black-box boys at least since 1954 when I first got involved in the space business.

The arguments haven't changed, although you'd have thought SKY-LAB might have ended it; but no, the black box boys still say that anything a man can do in space, instrument probes can do better and cheaper—and two instrument missions cost less than one manned mission. Meanwhile, the astronauts say that you can't learn anything

from a probe that you hadn't thought to ask it to tell you, and a trained astronaut-scientist will think of new experiments while he's in space and can do them.

I won't pretend neutrality, having started in the Human Factors laboratories and put several years into work on keeping men alive in the space environment; obviously I'm prejudiced in favor of the astronauts.

Unfortunately, the black box boys have a strong point. It's going to cost a *lot* to send manned missions to the planets, and with present spacecraft manned interplanetary travel can *never* become routine. It's not just a question of refining what we've got, either;

there's a definite theoretical limit to what we can do with chemical rockets, and manned interplanetary cruises—other than spectacular one-shots to say we've done it—are beyond those limits.

Let's see why and then look at ships that *can* take man to the planets.

FIRST we'll need a couple of basic facts about propulsion. Jim Baen and I are agreed that this column won't become a substitute for a textbook, and I'll keep the lecture short.

Rockets are still the only means of interplanetary travel we have, and they work by throwing mass overboard. The more mass tossed, and the faster it goes aft, the more thrust:

$$\text{Thrust (force)} = (\text{rate of mass loss}) \times (\text{exhaust velocity}) \text{ or,} \\ T = (M_O \frac{\dot{}}{T} M_I) \times (V_e)$$

(Equation one.)

What this says is you take the weight of the ship when you get through burning fuel, subtract that from the weight you started with, divide by time of burn and multiply by the velocity the burned fuel went aftwards from the ship; and you get thrust. Now in the foot/pound measurement system, thrust is expressed in *pounds* and sounds like a weight. It's not, it's a force, but it does have one convenient property.

One pound of thrust will just

support one pound of weight in the gravity of the Earth's surface. It will accelerate that same mass at one gravity if you started in orbit. In metric systems, thrust is expressed in newtons or dynes, and if you don't understand the difference between *mass* and *weight*, they aren't easy to interpret.

However, equation one makes it easy to see that if you don't want to throw much mass overboard, you'd better get it going aft at a fast clip—that is, you need high V_e .

Now V_e happens to be related to the temperature of the burn in the rocket engine, so naturally there's a limit to how high V_e can get; if it's hot enough, the engine melts, and your rocket won't work so good. It should be clear, though, that the theoretical V_e obtainable with any given combination of fuel and oxidizer is a good measure of how efficient that combination would be as a rocket fuel.

However, for reasons I won't go into, instead of V_e most engineers use another measure of fuel efficiency known as Specific Impulse, abbreviated I_{sp} ; this is given in units called "seconds." That's not really a unit of time. I_{sp} is the "pounds of thrust obtained per pound of fuel expended per second", obviously a measure of efficiency; and

$$I_{sp} = \frac{V_e}{g} \quad (\text{Equation two})$$

where g is the acceleration of

gravity: 980 cm/sec/sec in the metric system and 32 ft./sec/sec in the English.

Now we have a measure of fuel efficiency, but we don't know what we need for interplanetary travel. As I've shown before in these columns, one of the most convenient figures to look at is "delta-vee", meaning the total change in velocity we can get from a ship if we burn all the fuel in it. Delta-v is convenient because it doesn't matter if you burn all the fuel at once, or keep turning the motor on and off; and furthermore, we can calculate the delta-v needed for various space missions without knowing anything about the ships at all. Big or little, it takes the same delta-v to get into orbit, or to go from here to Mars.

We're almost done with the rocketry basics, but we need one more equation:

$$\Delta v = V_e \log_e \frac{M_0}{M_1}$$

(Equation Three)

What this says is that the total velocity change you can get from a rocketship can be found by knowing the exhaust velocity of the fuel burned, and the ratio of the mass when you started to the mass when you finished the mission. Log-base-e is the "Natural log" of that ratio, and if you don't understand logs, don't worry about it. It's tabled in handbooks or given by scientific pocket computers.*

Early chemical rockets used

fuel/oxydizer combinations with I_{sp} of under 200 pounds. That means that at a mass-flow rate of 1 pound a second, the rocket could lift about 200 pounds against gravity. Recall, though, that this is the total weight lifted, including the fuel to be burned in the next seconds, etc., and you'll see it's not so good after all.

Incidentally, if you'll look at the three equations you'll see why liquid-fuel rockets start lifting slowly and get faster and faster as they rise. The mass-flow stays the same, but they're burning fuel and getting lighter all the time. Since the thrust hasn't changed, but the mass it has to lift is decreasing, the acceleration the motor imparts to the rocket increases steadily.

Rocket chemists worked very hard to get higher I_{sp} (and thus higher exhaust velocities), and now the best solid fuel rockets have I_{sp} in the order of 250 seconds. Meanwhile, liquid-fuel rocket motors were developed to give even higher specific impulses, and by using liquid oxygen (LOX) and routing that around the motor to cool it before it was burned, higher burning temperatures were achieved.

* An easier way to calculate delta-v is to send \$3 to Rand Corporation, 1700 Main St., Santa Monica, Calif. 90406 and ask for a "Rocket Performance Computer." It's a circular slide rule developed by Ed Sharkey, and it comes with a book of instructions. You enter with I_{sp} and mass ratio and it gives delta-v directly.

Eventually, LOX made I_{sp} of 300 nearly routine. More exotic fuels were employed, including liquid hydrogen with LOX, and finally hydrogen and flourine.

However, with the best chemical fuels, the theoretical maximum I_{sp} is no more than 400. Actually, no one has got *that* yet; and it's certain that no chemical rocket will do better.

I_{sp} of 400 is an exhaust velocity, at best, of 3.9 kilometers/second. Let's plug that into equation three for various mass ratios and see what happens. (Table One.)

TABLE ONE

Best Delta-V for chemical rockets.

$I_{sp} = 400$ $V_e = 3.9$ Km/sec

Mass Ratio	% Fuel	Delta-V (Km/sec)
2	50%	2.7
4	75	5.1
5	80	6.3
10	90	9
20	95	11.6

It takes about 8 km/second to get into Earth orbit, which means the best chemical rockets have to be almost 90% fuel simply to get into orbit in a single stage; but let's assume we start in Earth orbit.

To get to Mars requires about 5.5 km/sec velocity if you *start* in Earth orbit—and it takes that much again to get back. Clearly, if we're to carry any payloads to Mars, we need refueling out there.

Equally clearly, we've got a problem, because how do we ferry enough equipment to set up a fueling station on Mars? About 80% of

our payload put into Earth orbit gets burned before we reach Mars.

To make a round trip, which means carrying the fuel to come home with, we have to put 20 pounds into Earth orbit for each pound making the trip from Earth to Mars and back again. Even one way takes a factor of four to one, not impossible, but expensive enough. Still, we could imagine commerce in which four tons of fuel were burned for each ton of payload delivered.

Unfortunately, minimum energy transfers (and those are the only kind possible with chemical rockets; anything else required delta-v in the tens to hundreds of km/sec) take *time*: 260 days to Mars.

People eat, drink, and breathe. With the best recycling we're going to have consumables aboard the ships—and the recycling systems are massive, too. Let's be generous and say we hold things to 5 pounds a day per passenger, and start with people who weigh 200 pounds each. That's 1500 pounds of passenger and consumables—and 6000 pounds of fuel for his one-way trip.

If we can't refuel at Mars and have to carry our return LOX and hydrogen out with us, it's far worse. You need 150,000 pounds of fuel in Earth orbit for each round trip passenger. Clearly, that's not a commercial proposition. Chemical rockets can give us commerce with Mars only if we can build a Mars

orbiter and fueling station, and even then it's marginal: and remember, we've given chemical rockets the best possible performance. It's not good enough.

WHAT are the alternatives, then? We have several, one of which could have been developed by the end of this decade.

How would you like to have had a 10 person scientific mission leave Earth orbit in June, 1979, to arrive at Mars 227 days later; orbit Mars for 48 days, then head for Venus, encounter the asteroid Eros and stay near it for a day or so; then go on to orbit Venus for 55 days and, finally, 710 days after it departed, return to Earth orbit?

It could have been built. I have a model of the spacecraft that could have carried that mission. It employs a stabilized main section, and a counterbalanced rotating crew-quarters section to give about 10% gravity; it carries plenty of scientific instruments, and a small nuclear electric power plant; and by making rendezvous in Mars orbit with an expendable fuel pod, **PILGRIM** could have sent down a manned Mars lander.

The model was built by **MODEL PRODUCTS** of Mount Clemens, Michigan, and sold for about 5 dollars under the name **PILGRIM OBSERVER**. The engineering and celestial mechanics of the model and its mission were very well worked out—and we really could

have built it for a 1979 flight. The engine employed was an atomic rocket called **NERVA**.

Unfortunately, neither the model nor the engine are available any longer, and for the same reason: no public interest. **MPC** took **PILGRIM** out of production at about the same time as Congress cancelled the budget of Project **NERVA**. This was just after Apollo 15, when people lost interest in space, and I was involved in trying to save **NERVA**: involved to the extent of writing some columns in daily papers, and furnishing the House Science Committee with data. But despite my efforts, which weren't important, and those of Congressman Barry Goldwater, Jr., which were very important, **NERVA** died.

Ironically it died a great success. It had been ground tested and found to work fine.

NERVA works like the "atomic rockets" of the better science fiction writers of the 40's and 50's. Basically, it's a nuclear reactor with a rocket nozzle at the end: you squirt fuel, say hydrogen, through the reactor; it gets hot; and out it comes, fast, to propel the ship.

Now **NERVA** didn't burn any hotter than the best chemical rockets; in fact, some chemical rockets operate at nearly 3000°, which is better than **NERVA**'s design specs called for. However, V_e , which is what you want to maximize, depends not only on the temperature of the reaction, but

also on the molecular weight of what you're throwing overboard.

Hydrogen burning in oxygen produces water, with molecular weight of 18. Even hydrogen and flourine give off HF with a weight of 10. (It's also rather corrosive, since the least moisture converts it to hydroflouric acid.) But NERVA squirted out molecular hydrogen, and that has a weight of only two.

The best tested I_{sp} for NERVA was 650. The designers of PILGRIM assumed they'd get 850 by 1978, and that was reasonable. Most engineers now think NERVA-type craft can get I_{sp} of 1200. Let's plug *those* into Equation three and see what we come up with.

TABLE TWO
Delta-V from NERVA Ships
(Km/second)

	Mass Ratio		
I_{sp}	2	4	5
850	5.8	11.5	13.4
1200	8.2	17.1	19.7

Even with the lower figure, you can get a round-trip to Mars at a mass-ratio of four. With that kind of capability, commerce between the planets becomes economically feasible. It's still expensive, but given some kind of system to get materials into orbit at either end, it's more than just possible—it becomes likely.

THERE's another alternative to NERVA, though, and it too was studied extensively before it was

abandoned. It was called ORION, and on first description it seems like the most unlikely method of space travel you ever could devise.

ORION was also known affectionately as Bang-Bang. It worked very simply: you take a *big* ship, and on the bottom you put a very thick metal plate. You hang the rest of the ship in such a way that there are a lot of shock absorbers between the base plate and the ship itself.

Then you set off an atomic bomb underneath the ship.

Believe me, the ship will move. When it starts to slow down, you fling another atom bomb down below and detonate it. You keep doing that until you've got enough velocity to get where you want to go.

Silly as it sounds, ORION would have worked. There were some problems. Obviously that base plate and suspension system had to be carefully designed. You probably wanted a small shielded compartment for the crew and those items you carried that couldn't take hard x-rays, and a larger compartment, unshielded, for the rest of the cargo. None of this would have been difficult.

Another problem with ORION was coupling the energy from the bomb to the ship. Atom bombs put out a lot of x-rays and neutrons and heat, and of course once out of the atmosphere there's no blast at all. But even that problem was solved: you have to put something between

the bomb and the ship, something that will absorb energy from the bomb and whap! the bottom of the ship to keep it moving: something like styrofoam, for example, which looks as if it would work despite its unlikeliness.

ORION works better from orbit, but it could lift from Earth—if it weren't for the Treaty of Moscow that prohibits surface detonations of nuclear weapons, and if you weren't worried about the fallout.

It has been calculated that ORION would put 5 million pounds in orbit, or land two million plus pounds on the Moon—and do it on one whack. That's enough for a fair-sized colony's consumables and machine tools.

Of course we won't use ORION to launch from the Earth's surface, but there's nothing wrong with using it from Earth orbit to plant Lunar and Martian colonies; it's the most efficient and cheapest form of space transportation known, believe it or not.

MOREOVER, ORION works us toward something even cheaper. The problem with ORION at the moment is that you're blowing off a kilo or so of weapons-grade U-235 with each bang, and that stuff's not cheap. *Aviation Week* and a few other publications have been hinting that fusion bombs with laser trigger either have been or are about to be developed: with these,

you don't need a U-235 primary, you just have a hot laser zap some Tritium or Deuterium. It's more bang for the buck, and it would power ORION nicely.

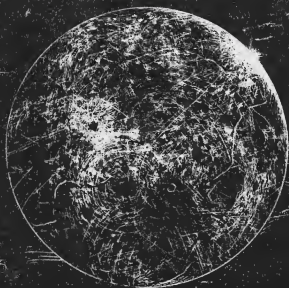
Dr. Greg Benford has also described a system that would be even cheaper: you have a big power source on the ship, say a small fission reactor. That feeds a *big* laser. Pellets of Tritium or Deuterium are ejected below the ship, and zapped from the laser, producing fusion to drive the ship. It's the ORION principle again, carried to its most efficient extreme.

When you've got ships like that, you don't even talk about I_{sp} and exhaust velocities, and the mass ratios are actually fractional—that is, the ship that arrives weighs more than the fuel expended to get there.

All these ships were once seriously studied. Now, it's only in universities and among science-fiction people that they're mentioned, and even there most don't take ORION-type ships very seriously. Yet any of these ships could have given us the planets—and until either the NERVA or the ORION principles are exploited, the black-box boys have won.

Man can dominate near-Earth space using the shuttle and laser launchers; but until we go beyond chemical rockets, interplanetary space will belong to unmanned probes. ★

THE LONG NIGHT



*This is a classic 'problem' sf story—
and as is proper in this genre-within-
a-genre the solution is inherent in
the problem!*

JOHN CHRISTOPHER

THEY were five days out from the Base when the caterpillar stripped a track. Dugmore was driving. They had entered a wide ravine spectacularly divided between sunlight and shadow, cold black and blinding white. Although the line of demarcation ran roughly along the center, Dugmore kept within the sunlit area to avoid putting extra strain on the relays.

Ahead he noticed a dip in the ravine floor—a medium-sized crater that took up the entire width of the ravine. He studied the obstacle as they approached. Both the dip and the ascent on the far side were well inside the caterpillar's potential—and since there was no way around and going back would involve a long detour; he drove on.

The caterpillar reached the lip of the crater, nosed down. Suddenly there was a screech of tracks trying to grip and failing, a sensation of sliding. Corfield was thrown against him. They wound up in a heap on the floor, knocked about but undamaged.

They donned suits and went out

to examine the damage. It was easily found. The left-hand track was broken and stripped, a limp tail that trailed behind the caterpillar. They touched helmets to speak, a grotesquely romantic gesture, Dugmore always thought.

Corfield said: "Think you can manage it?"

His voice was small and tinny; even normally it was high-pitched for a man so massive. Dugmore said:

"Nothing to it. Go and amuse yourself."

Of course, Corfield could have done the work just as Dugmore could carry out the necessary mineralogical surveys; but this was basically Dugmore's field, just as the other was Corfield's. It was simple enough—a straight-forward job of welding and reassembly. Before getting the tools, he straightened his back and had a look at the surrounding scene. The caterpillar had slid to the bottom of the crater, which was filled with loose rock and gravel, and dotted with boulders. All very dead, bleakly devoid of life.

Inside, he had a shot at raising Cape Kennedy before picking up the welder. No good. Direct communication with Base had, of course, been out since they dropped below the horizon. After that, signals had to be bounced through the link stations back on Earth. The sun-spot interference had come in first on the morning of the third day, and on the next contact, when they should have had Tokyo, there was nothing but howls, whistles and bangs. The regulations ruled that you turned back on losing touch, but this particular edict was honored mainly in the breach—had been broken, in fact, by the last probe as well. The point was that the caterpillar was pretty much an independent entity: air and water, with re-cycling, would last a couple of months, food concentrate, half as long again.

There were other considerations as well. One was that they had been waiting a long time for the chance to get out of the underground tunnel that was Base. Another was that theirs was the fourth probe, heading south as the previous ones had gone west, north and east and there was a certain amount of rivalry as to distance covered. Probe 2 had done best so far, but they were ahead of them so far. They had little difficulty in making up their minds to carry on. The following day they got through to Shannon, though only in Morse: R/T was still impossible.

"Day" was a misleading word. The probes set out from Base at the lunar daybreak, travelled away with the rising sun and then, as it began to slip from the zenith, made their way back. Seven earth days each way. But they continued to live on a twenty-four hour clock, taking it in turns to have the six hours sleep which was as much as anyone needed on the moon.

If anything went wrong they could easily survive the fourteen-day lunar night. They would stay warm and snug in their caterpillar, and could listen again to the music tapes or re-read the flimsy rice-paper books. It would be a bit boring but that was something they were used to. There were no hazards: no storms, no monsters. A dead world, in which nothing changed, nor had changed for hundreds of thousands of years. The most interesting thing any previous probe had turned up had been a high-temperature streak in the tufa which covered the greater part of the ground area, the high temperature being ten degrees above calculation.

They, of course, had discovered Corfield's invisible worms. Dugmore smiled at the thought.

They stopped at specified intervals to take specimens. Usually Corfield brought back two or three cores, but the last time he had taken the cutter and sliced out a much larger section, a piece of rock about two feet square and a couple

of inches thick. On Earth, it would have been quite a weight, but he hefted it easily. Too easily even for the Moon. When he carried it through the lock, Dugmore said:

"A hefty chunk of real estate, that. You planning to take it back to Joan for that rock garden of hers?"

"What would you say it was?"

Dugmore looked at it. A section of typical ore-bearing basalt, except that instead of ore veins it had . . . well, holes. In parts it looked as though worms had crawled through the rock, an unlikely notion to say the least.

"Metalliferous," he said, "without the metal."

Corfield nodded. He looked excited.

"Typical iron-bearing rock. I'd swear to that. But without iron. Almost as though it had been leached out."

"Doesn't iron oxidize?"

"Where there's oxygen, it can."

"Then maybe the moon had an atmosphere at one time."

Dugmore considered the point. "A rather selective one. We've come across plenty of exposed iron ore elsewhere."

"Then there's life on the moon after all. The rock-eating lunar worm. *Vermis Lunaris Corfieldis*. O.K. to move on, or do you want more from here?"

Corfield was studying the rock. He said abstractedly:

"Sure, move on."

FOR an hour, Dugmore bent over the welder, with Corfield checking occasionally to see how things were going. He thought it was time then to have a break for food. He went in and opened a self-heating can of high-protein, low-residue mush, chicken and ham flavour. He was not sure whether the texture or the flavour inspired more nausea. But it was nourishing. They had been well assured of that.

Corfield followed him in. "How long now?" he asked.

"Another hour, I should think."

"Fair enough. You picked an interesting spot to bust a track."

"More worms?"

"By the dozen, from the looks of it. A good place for siting an iron mine, except that it's been surface-mined already. And with high efficiency. I've found a couple of pockets where the iron content assays staggeringly high. The rest is holes where the iron ought to be."

Dugmore plugged in a tape of the musical, "Royal Scot."

"You can have yourself a ball with it. A short one, anyway. We need to get on, since it's turn-around tomorrow."

Corfield, whose taste was for string quartets, grimaced as the Overture belted out.

"I think I'll get out there right away."

The job in fact took another two and a half hours to finish. In that time, the line dividing sunlight from shadow had shifted fraction-

ally away from them. At the top of the rise there was a boulder—about three feet in diameter—one edge gleamed now in the sun's marginally more vertical ray. They went inside, Corfield taking the tiller. It was his turn for driving, and Dugmore was tired, anyway. His sleep period was almost due, and he was in favour of that.

The caterpillar jerked forward, and stopped. There was a higher whine from the engine. The wheels were turning, but the tracks were not gripping—you could hear the stones spinning under them. Corfield gave her more power, and the tracks bit. The caterpillar moved up, skidding and sliding sideways. They were climbing the slope. Then she stopped again, with a more decisive feel to it.

Dugmore took over—there was nothing to worry about but she might need coaxing. He revved high before he let in the clutch. She bounded, and covered about half of the remaining distance to the top. She stuck there, however. The pitch was a little too steep with this kind of loose scree. Only a little, but that was enough.

Corfield said: "Now what?"

"I suppose we could wait to get through, and then wait for a rescue party."

"Three weeks. Any brighter suggestions?"

"Yes," Dugmore said. "We'll get the block and tackle staked in up above, and hook the spare

motor to it. Run a hawser round the caterpillar. Pull and push at the same time. Dead easy."

Corfield nodded. "You're the boss."

Working in their suits, it took over an hour. At least, Dugmore reflected, there was no need to worry about getting caught by the dark. The sun would not start setting for another twenty four hours. When it was ready, Corfield went up to handle the winching part, while Dugmore stayed in the caterpillar. He was near the edge of exhaustion.

He had told Corfield to start the spare motor first and to gun the caterpillar as soon as he felt the hawser taking a strain. Corfield did so. The caterpillar moved serenely up the slope, poised on the lip, and came onto level ground.

Corfield was visible a few yards ahead. Dugmore signaled to him to stop the engine, cutting his own at the same time. He heard the hawser grate against the side of the caterpillar, shifting position. There was a harsh tearing spang of metal. It sounded expensive.

Corfield came in through the lock. He said:

"Bad luck. It's the . . ."

"I know," Dugmore said. "The track's snapped again."

Corfield nodded. "At the weld."

Dugmore took a grip on himself, and breathed out heavily.

"Ah well—back to the work-bench."

DUGMORE's eyes were aching. Their fatigue made worse by the blinding whiteness of vacuum light reflected from volcanic dust. Both his reflexes and his judgment were impaired by fatigue. He fumbled things. He had to re-do the first weld he made. Corfield stood and watched for a time and then, to Dugmore's relief, wandered off, examining the terrain. Corfield stayed in view, of course: that was one rule no-one ever broke. Later he went back to the caterpillar to watch Dugmore add the final touches. He bent his head, making contact.

"All right now?"

"It had better be."

They went in through the lock. Dugmore said:

"Try the radio again?"

"Yes."

"No luck?"

"I heard something. Garble."

"No matter. We're on our way."

"You look shot," Corfield said. "You're overdue for the bunk. I'll take her off."

Dugmore finished removing his suit. "She's all yours. I don't think I'll need ear-plugs."

He had put his own cocoon in the narrow recess of the bunk. He slid into it, turning his face to the blankness of the wall. Drowsily he heard Corfield making the necessary connections. The engine started, a good healthy note. Clutch in. Something was wrong. The engine whined on a higher note for a mo-

ment, then stalled. Dugmore was filled with a murderous rage—against the caterpillar, Corfield, himself. He heaved himself up and out, and began dressing.

Corfield asked: "Shall I try her again?"

"I'll have a look outside first."

"You don't want to try her yourself?"

"No."

"I'll come out with you."

He did not bother to reply to that.

HE EXAMINED the track he had mended first. He could see nothing wrong. He went to the other side. The trouble was plain. A boulder was jammed in the tracks, wedged in the space between wheel and body. Visible, all right—but possible? He pulled at the boulder for a moment, then drew back as if stung.

The rock was hard, but not rock-hard. There was resilience there.

Corfield's helmet touched his. Corfield said:

"What is it?"

"You tell me. Not stone, anyway. Feel it." He saw Corfield touch it, then the expression of surprise behind the visor. "The main thing is getting it clear. I'm going in for a crowbar."

When he came back Corfield was lying prone staring at the boulder. Crouching was difficult in a suit.

Dugmore wedged the crowbar in and heaved. Nothing happened. If it had somehow been wedged in during that last ascent then it should have been forced out again. He tried again. The thing was in solid. Corfield touched heads with him.

"Hang on while I get the drill."

While he waited for Corfield's return he decided there was something wrong with the shape as well. It was too regular, too close in the sunlight. The surface gleamed with a faintly bluish sheen in the sunlight. He hit it with his hand—it yielded ever so slightly.

Corfield put the edge of the drill against the thing and started up. There was no sound, but a faint vibration transmitted through the rock to the soles of his feet. He ran it for several seconds, and switched off. Dugmore stared at the place where he had drilled. Not the faintest sign of penetration.

Corfield's head bent down to his. "Let's go inside."

Dugmore nodded, pulled at the crowbar to free it. He had to put his weight behind it. The odd thing was that it felt like overcoming adhesion rather than ordinary jamming.

WHEN they were back in the cabin Dugmore said:

"You're the metallurgist—what is it and how did it get there?"

Corfield looked dazed. "It's not metal, nor rock either."

"Then what?"

Corfield held out the drill. "I had the diamond head on. Didn't touch the thing—yet it gives when you press it—just a little."

"Go on."

Corfield said slowly: "Two things emerge. One is that it has a different molecular structure from anything we've ever come across."

"The other?"

"It could be alive."

"On the moon? No air, no water—how?"

Corfield picked up the crowbar which Dugmore had put back in its box.

"Look at this."

Dugmore stared at the crowbar. For eighteen inches from the end—that part which had been pressing against the boulder—there was a discoloration, a kind of blue smear. He looked more closely. Just barely visible, there was pitting.

"Metal?" he asked. "Are you suggesting it eats metal?"

"It would explain some things."

"The worms, you mean? A bit on the large size, to get into those holes."

"I don't know. I'm going out to have another look at it. You could try raising Cairo again. Or Manchester might be coming in by now."

"And tell them what? That we've found the local inhabitants, and that they chew iron filings and excrete rust?"

"I think it might be a help to

have them send someone out from Base with another caterpillar."

"In case we can't pry our little friend loose?"

"Just in case."

Dugmore applied himself to the radio. Cairo offered a gale of noise. On the Jodrell Bank frequency it seemed a little better. R/T was obviously out of the question, so he keyed and waited. There was nothing. He was still straining to pick up an intelligible signal when Corfield came back in.

He shook his head in answer to Corfield's unspoken query, and said:

"What about our little friend?" Dugmore asked.

"Siderophagous," Corfield said, "and siderotropic. Polymorphous with it. I suspect its natural shape is a sphere, which is the most conservative of energy. But if you put iron-containing material near it, it throws out a pseudoped toward it, fastens on and starts absorbing."

"At what rate?"

"A slow one, fortunately. It's slow altogether, which I suppose is what one would expect."

Dugmore closed down the set. "If it's slow, and that size, why didn't we notice it before? I mean, you've been busy checking the local territory. You didn't spot a bluish sphere, a couple of feet across?"

"I saw it all right, only it wasn't a bluish sphere then. It was a boulder, lying on the lip of the crater. At least, the boulder is now miss-

ing, so that's my guess."

Dugmore wrinkled his brow, remembering. "That can't be right. I remember that stone: there was only the one. It was nothing like a sphere, and didn't have that sheen. A chunk of rock."

"Try a cut with Occam's Razor. The boulder miraculously removed as well as our lunarian sphere fastening onto the caterpillar? Better two improbabilities than one?"

"I don't get it."

"Nor do I—but I'm feeling my way towards something. That section was in shade when we arrived. Let's suppose the thing inactivates during the lunar night—goes to sleep until the sun touches it again. Then it wakes up and starts looking around for food. It can obviously mine iron out of rock pretty effectively. But the caterpillar offers more attractive scope. Something like one of us back home finding a flying saucer composed of T-bone steak."

"The thought's too poignant. It's a good theory, but there's one thing against it."

"What's that?"

"If it tends towards a sphere shape as a means of conserving energy, surely it would remain in that form during the dormant period? That boulder was a pretty jagged piece of stone."

Corfield shrugged. "Protective mimicry perhaps. Who cares? What matters is that we've found life—or pseudo-life, at least." He had the

look of a child who's just discovered that Father Christmas is real after all. "It's fantastic."

"Yes," Dugmore said, "I can see that. I'll start cheering as soon as we've pried the goddam thing loose."

THEY weren't worried, not yet. The thing did not look menacing, did not appear likely to become a threat. Corfield tried various metal objects in contact with it and thereby established that it displayed tropism only for iron and its alloys. The higher the iron content the more rapid the rate of absorption, the highest rate being, Corfield calculated, slightly less than a thousandth of an inch per hour, something like a fiftieth of an inch per day. The caterpillar's plating was half an inch, which meant they had twenty-five days before the thing ate its way through.

On the other hand, the problem of freeing the track from its clutches remained obdurate. Various attempts at prying or pushing it out got nowhere.

After an hour of this, Dugmore thought of heat. It could plainly take extreme temperature changes, but a touch of the oxyacetylene flame was somewhat different from the sun's radiant energy, even in vacuum. He set up the welder and directed the torch at that part of the sphere furthest away from the caterpillar. In a short time, the blue turned to orange and then to

cherry-red. Nothing else happened. Corfield had another go at levering it out, with no result. Dugmore held the torch steady in one spot and the red brightened to a yellowish white. But that was absolutely all. Corfield touched a part of the sphere away from the flamed area. He made a gesture of negation, and another towards the airlock. Dugmore switched off, and followed him back in the caterpillar.

Corfield was excited again. He said:

"Quite a different molecular structure, obviously. Do you realize that a few inches away from the point you were burning the temperature was absolutely normal?"

Dugmore stashed the welder away. He said:

"I say it's spinach, and I say the hell with it. Look, I'm beat. I'm going to get in the sack. Wake me if it sprouts wings and starts lifting us off towards Tycho."

Corfield said abstractedly: "Sure. I wonder if it would respond to magnetism?"

"You find out. You might also have another shot at getting through to Base. I have a feeling maybe we are going to need help. Try Manchester again—or Shannon."

CORFIELD woke him with the usual hemidemisemitasse of coffee and steaming tin of scrambled egg with diced ham mush. Sitting up, Dugmore asked:

"Any luck?"

"No. It was an odd thing with the magnet, though."

"How so?"

"It started putting a tendril out and then stopped and withdrew."

"You should have carried on. You might have got it confused."

"I didn't think of that."

Dugmore reached for his sponge and began rubbing himself.

"Don't take it to heart."

"But I mean it. It might . . ."

"Forget it. What about the link? Any luck?"

"None."

"Cape Kennedy should be in by now."

"I tried them. Nothing."

Dugmore sighed. "We're still on our own, then, coping with our ravening monster. No other bright ideas?"

"I set up the camera to record it."

"That should win a prize for action movies."

"Single-frame at minute intervals. Do you think electricity might touch it?"

"We could try. Or tickle it with a feather, maybe."

They manhandled the generator outside, hooked it up to the transformer, managed to boost the output to two thousand volts. Dugmore held a contact against the sphere, which seemed distinctly larger, bulging out more obviously from the track, and nodded to Corfield to apply the juice. This time, it didn't even change colour. When

Corfield cut, and came over to touch helmets, he asked him:

"You sure it was getting through?"

"It was getting through, all right."

"Let's go in and think again. Might be worth trying Berkeley, too."

Corfield tried to get through to Berkeley. The static sounded louder than ever, a storm of sound. There was no point in persisting. As he switched off, Dugmore said:

"This is turn-round point, by the way. I just checked the clock. We ought to be on our way home by now."

"We've got a day in hand."

"Yes."

For the first time, Dugmore felt uneasy. If they did not get started on the return journey within twenty four hours the chances were that they were not going to make it—they would have to spend the lunar night in the open. And suddenly that was a prospect not just of boredom but of something else . . .

He started looking for tools. Corfield asked:

"What do you propose doing?"

"I'm going to dismantle the track on that side. We might be able to do more if we can get a clear approach to it."

IT was not an easy job under the best of conditions; working in a suit made it harder. Dugmore sweated heavily and had to break

off after a couple of hours and go inside to rub down. He stood the suit in the dehumidifier and had another try at radio communication, with the same result as before. Corfield had tried half an hour before. He realized he was beginning to get nervous.

An hour later he was again soaked with sweat—but he had the track off. The thing was exposed, a flattened blue spheroid pressed against the metal side of the caterpillar.

It was bigger than he had thought, more than four feet across. He saw at once that the exercise had been futile. It clung tightly to the metal, as though part of it. All the same, he tried driving aluminum wedges in at the side. No luck. When he tried it with a steel chisel it yielded; yielded—and held. First he tried to pull it out, then to knock it out with a hammer. Neither attempt succeeded. When he had first tried to remove it, it had not gripped the crowbar like that. Their beast had grown stronger.

They went inside for conference. Corfield said: "It's not going to budge, is it?"

"No. There's something else."

"What?"

Dugmore said: "If adhesion can change, maybe absorption can."

Corfield nodded slowly. "I'll check that."

"While you're doing it, I'll try to raise Hawaii."

"It's been a long time for a sun-

spot flare, hasn't it?" Corfield said.

"Yes."

If they managed to put through a call for help it would take six days for a relief caterpillar to get to them; and that meant both parties spending the lunar night in the open. All the same, it would be a comforting thought to know that help was on the way.

He called Hawaii, went on calling. Through the bubble he could see the globe of the Earth, a pale disk against the brightly hazed black of the sky. Late evening there. Maybe people were walking by the sea, watching moonlight on the waves.

He listened to the crackle of the ether. Maybe the whole world was dead. He broke off as Corfield came back in.

"Well?"

He really did not need to ask. Corfield's face told him. But not exactly how bad. Corfield said:

"Double"

That meant twelve days instead of twenty five; presumably it would inactivate during the night. Six days for the relief tractor to get out here. It was going to be close. One could live for forty eight hours in a suit, but no longer.

Corfield said: "And, of course, if it's variable, then it could go on varying. We don't know that it's reached it's maximum."

"No." The chill of fear for a moment was the chill of the airless vacuum outside. "I see that."

"I've had an idea, though," Corfield said. "We've been trying force on it. Persuasion might be more rewarding."

Dugmore said bitterly: "Promise it we'll take it back to Earth and feed it cannon-balls?"

"We could have a shot at luring it. We've got stuff in here with a higher iron content than the hull. Those tools, for instance. It might find a purer food source more attractive. If we could lay a trail away from the caterpillar . . . I agree it sounds unlikely. On the other hand . . ."

"Sure," Dugmore said. "On the other hand, anything is better than nothing. I'll start collecting the gear."

THEY used the crowbar as the final link. Dugmore closed the gap with it. As it approached the blue spheroid the surface pulsed and a tendril rose out of it. It reached the bar and started moving along it—not fast, but the movement was quite perceptible. From the far end it went on to a metal jack and from there to various tools placed end to end. The trail ran more than twenty feet. The filament, Dugmore saw, was thickening, first along the crowbar and then over the jack. And the spheroid itself looked slightly smaller. Crazy as the idea was maybe it was going to work. But something else was happening: a lump of the same slightly gleaming dark

blue as the rest swelled under the tendril and flowed along it to the crowbar. The nucleus? It moved to the jack, enveloped it. Then, between crowbar and caterpillar, the tendril thinned and parted. The ends retreated from each other into their parent spheres.

That made two of them.

DUGMORE persuaded Corfield to get some sleep, and made him take a pill to ensure that he did. Listening to Corfield's deep, even breathing, Dugmore felt loneliness as a physical presence. More for something to do than out of real hope he fiddled with the radio, found the Tokyo frequency relatively quiet. Switching to transmit, he sent the call-sign LUN5. The burst of staccato dots at the end sounded like nails in a coffin. Listening in afterward, he thought he heard a signal, but it was so weak that it might have been his imagination. He transmitted again, and listened again. This time the static was back, and there was no hope of picking anything up.

Dugmore spent the rest of Corfield's sleep period outside with the monster(s). He tried all the things that they had tried before. When none of them worked, he stood and looked at the two spheroids. The new one seemed to be growing faster than its parent. A function of infancy, or of pure iron diet from "birth"? He was not interested, he found, in such academic questions.

His attention was focused solely on survival.

CORFIELD woke. They ate more mush and rehearsed about the situation. Neither of them came up with anything new. Their tempers were frayed and they began snapping at each other. Dugmore felt that he was more to blame, but he could not do anything to cool himself out. His nervous tension was such that he could not stop himself. In the end, Corfield went outside and he concentrated on the radio. Static, nothing but static. He continued to search the dial hungrily and hopelessly. When Corfield came back in, Dugmore didn't bother to look up. But Corfield said:

"I checked the rate of absorption of the new one, to see if the higher iron content made a difference. It does. The rate's up."

"Write a book about it."

"And then I checked the first again. The rate's up with it too."

Dugmore stared at him. "Are you sure of that?"

"I double-checked. At the new rate it will be through the hull in four days, give or take the odd hours."

"So even if we get through, and they sent a relief caterpillar out . . ."

"Yes," Corfield said. "Too late."

He found himself cursing insanely, a string of vituperation against the spheroids, the moon, Corfield,

the indifferent millions who worked or played two hundred and forty thousand miles across space. Corfield let him run on until exhausted, and then said:

"I think I may have the answer."

Hope paralyzed him. He waited, staring. Corfield said:

"If it's got a mind at all, it must be of a pretty primitive order—and it seems to activated by sunlight. Perhaps the reverse is true. When the sun goes down, maybe it reverts to that pseudo-boulder form. Unfortunately, the way this ravine runs, it will be another five or six days before the sun is off it—unless we provide an artificial night, rig up a sunshade."

"It can't be as simple as that."

"Worth trying, don't you think?"

Dugmore looked around the cabin. "We can rip the bunk out for a start. Use the sides as supports."

IT was ridiculously easy. Nothing happened until the last ray of sunlight was obscured, and then it all happened at once. The spheroid seemed to shrivel and fell away from the caterpillar. Once again it was an ordinary, irregularly shaped chunk of rock. Felt like it, too. Dugmore prodded it with his glove. Not yielding any more; just a rock.

He put both hands down on it, heaved. He rolled it along to the point where the natural shade took over, left it. Then they went to deal with the other one.

DUGMORE said: "I can't think why it took us so long to work it out. It seems so obvious."

"I've always been a bit weak on the obvious," Corfield said.

"Not as weak as I am." He paused, considering this. "I wonder if I would have thought of it, before that damned thing chewed its way through. I'm not at all confident I would."

Through the bubble he could see the remaining segment of the sun's disk. Otherwise no different from what it had looked like at the zenith; there were no spectacular sunsets here.

They were still in the same place. There were two reasons for that. In the first place it had taken longer than they expected to put the damage right: the erosion had made the track difficult to fit. By the time the caterpillar was ready to go they were in communication with Base again.

Their report of the spheroids, as they had expected, had caused quite a stir. The relief tractor would head toward them at the next lunar day-break, carrying a lightproof, iron-free container in which the two lumps of pseudo-rock could be crated. Meanwhile, they were to stay and keep watch. There was obviously no danger now, and in any case they could not have got back to base in the four days' light that remained and they had more than adequate supplies to sit the night out.

THE tape that was being played was some quartet of Beethoven's; one of the later ones, Dugmore guessed, because it made even less sense to him than most. But he was not irritated by it, nor by the prospect of hearing it a dozen more times. Relief from the fear of death was a great mollifier; even several days later it came over him, a wave breaking and showering him with a fine spray of awareness of the joy of living.

Corfield looked happy, too. He sat staring out through the bubble with a remote half-smile on his broad face. His wife had come through on R/T from Cape Kennedy that morning, and told him all was well—she was expecting to have the baby sometime during the next week or two. They were, Dugmore gathered, a very contented couple. Lucy had not come through to him, but she scarcely would, with a divorce pending. He found he did not worry about that any more. What were those lines?

The world is so full of a number of things.

I am sure we should all be as happy as kings . . .

The world was up there, waiting. The sun was creeping down, the long slow shadows were creeping towards them. Soon only starlight and earthlight would remain. A long night, but day at the end of it. ★



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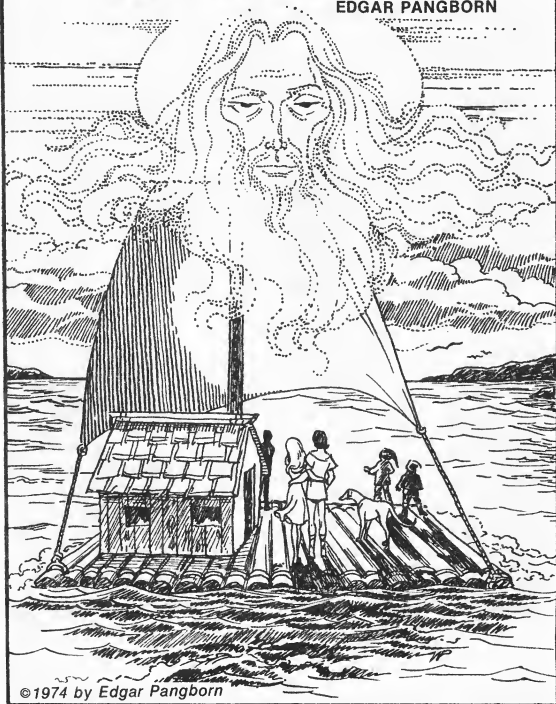


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WHAT HAS GONE BEFORE

DEMETRIOS was born, under the name Adam Freeman, in 1980 at Hesterville, Missouri, 13 years before the 20-Minute War and the following plagues which destroyed his family. Adam fell in with a party who believed things were better in the east. They traveled through heat and torrential rains to a place called Nuber, in the Cat-skills. During the journey a boy Adam loved, Demetrios Makarios, destroyed himself, unable to endure the collapse of his world. The boy's mother refused to believe him dead and "mistook" Adam for him; he supported her delusion by taking the name Demetrios, and kept it ever after.

Forty-seven years later, still at Nuber, he has become a street-corner yarn-spinner, earning the rest of his living as janitor in a respectable sex-house in the "Outer City". Inner City is reserved for the aristocracy, the new rulers who support an uneasy monarchy and call the city-state a "King's Republic". The water level has risen in a warming climate; wilderness has returned over most of North America where the sea has not.

After giving some of his long-ago experiences as a streetcorner tale, and making a few radical remarks, Demetrios is informed by a policeman that he must get a license for

storytelling at Town Hall before he does it again. The little crowd breaks up, but two members of it, a stable-boy, GARTH, and a young aristocrat, ANGUS BRIDGEMAN, will go with Demetrios to the ends of the earth, and Angus' wolfhound BRAND will be another companion. In a private conversation in the city park, Demetrios learns something of Angus' life in Inner City, which is precarious. He also recognizes the boy's quality and loves him. They agree to meet tomorrow in the same place.

Demetrios returns to the sex-house run by MAM ESTELLE on Redcurtain Street. He shares a room there with his two closest companions, the PROFESSOR (a lute-player who never speaks) and SOLITAIRE, a girl Demetrios found wandering after her loss of memory. Mam Estelle and her helper BABETTE are also close friends of Demetrios, and he sometimes helps entertain in the Parlor with his stories. It is a pleasant life, except that everything in Nuber is under the shadow of a medievalism, a returning dark age. Demetrios was the son of a doctor, and remembers an age when reason might have had a chance.

In the morning Demetrios goes to the Town Hall to see about a license, and learns it costs more than he can afford. There is an impending shake-up; the Nuber

authorities are worried by a new sect, the ABRAMITES—and all storytellers and other uncommon people are regarded as potential subversives. The Abramites are followers of the prophet ABRAHAM, martyred at Nuber 17 years before—the ever-recurrent Christ figure who declares the earth must make way for the kingdom of heaven. In the past Demetrios has made a streetcorner story of the martyrdom—he saw it happen himself—and is suspected of being an Abramite.

Inserted here is an excerpt from a diary kept by Mam Estelle, (and others will appear later). She rambles considerably, concerned with her own past as well as the present. She also was born in Old Time, indeed is somewhat older than Demetrios. In the 20-Minute War she lost her lovers and her baby whom she adored; she drifted to Nuber, worked in the sex-house and later inherited the management of it.

(And occasionally you will encounter remarks by “the one who writes this book” and who doesn’t quite seem to be Pangborn—don’t worry about it.)

After his disturbing interview with a police lieutenant who specifically warns him against ever telling the story of Abraham again, Demetrios goes to the park to meet Angus, who is not there. In his disappointment, and anger at the license thing, Demetrios gets a bit

drunk, and defies fate by drawing a crowd and telling the story of Abraham, as it truly happened. The policemen appear as he is finishing, and he has a glimpse of Garth arriving, but not Angus.

Demetrios is taken to the town lock-up without a hearing, and flung in the same cell with BOSCO, a wandering rascal who has been jailed for stealing a pig. Bosco’s great wish is to get back to the Rambler gang (traveling tinkers and entertainers) that brought him up. He owes the Boss a licking for giving him one.

The stable-boy Garth and his 12-year-old brother FRANKIE come to the jail after dark, promising a jailbreak later in the night. Garth has seen Angus, who escaped from a night of knives at the Inner City—the Abramites are being purged; Angus’ mother was involved on the side of the dictatorship. For all of them flight seems the only answer.

Garth and Frankie return at midnight with Angus and the dog Brand; the jailor is overpowered, Demetrios and Bosco set free. On the road south of Nuber they join Solitaire and the Professor. Angus on his escape had gone to Mam Estelle’s to warn Demetrios that he was in worse danger than he thought; there he met and loved Solitaire; all are beginning to think of themselves as a Company.

Babette goes with them a little way, spending the night with them at the “hant-house” in the woods

south of Nuber; then she returns to Mam Estelle. The Company proceeds through mist and uncertainty, down a wood-road which runs into a remnant of Old-Time blacktop, heading west. Solitaire has told Demetrios that she is pregnant by him, three months along.

In her diary, Mam Estelle tells of the early years of the sex-house, of MISTER FLEUR and his suicide.

The journey haunted by mist deepens the affections of the travelers for each other, except for Bosco who is seldom concerned for anyone but himself. At one point, nearing a river that could be the Delaware, Demetrios is oppressed by fantastic sounds that seem to belong to the 20th Century; the others are undisturbed, having rational explanations for them, which he accepts. The fog stays with them until they cross the river, and then they are solidly back in the Year 47. They move on to the conservative Penn town of Trottersville, where SAWYER FINN'S Circus also has arrived.

XII

It's our Covenant with Nature

*Wynken, Blynken, and Nod one
night*

*Sailed off in a wooden shoe—
Sailed on a river of crystal light
Into a sea of dew.*

—Eugene Field, *POEMS OF
CHILDHOOD.*

THE innkeeper at the Boar's Head thought he might have heard of Gammo's Ramblers—long ago, he couldn't place it. "Someone at the Circus might know about'em—those bums get around. Jason Smallways has left'em have his back field for to camp in—Smallways never had no sense. Show opens tomorrow—no tent, just lousy caravans."

"I'll ask now," Bosco said. "Anybody want to come along?"

"Sawyer Finn's Circus did you say?" The innkeeper confirmed that. "I might go along," said Demetrios. Frankie and the Professor added themselves; the rest were tired, or sad, or busy.

They passed through the drowsy town—all Penn is drowsy, it's partly the climate—to the animal-smelling excitement in Smallways' back forty. Six mule-caravans were drawn up in a loose ring—yes, rather like the pictures you (should) have seen of Conestoga wagons in a defensive circle surrounded by war-whoops. An acrobat was trying the stretch of his tights recently mended in the seat. A lank boy exercised two pretty horses. An old, old, square-jawed gentleman was testing a ringmaster's whip, snapping it at the ground. A thin man with black handle-bar mustaches petted two sleepy pumas in a cage, and a fat woman sat grieving in the sunlight.

Bosco went to talk to the youth with the horses. Demetrios,

Frankie, and the Professor approached the old gentleman, who cyed them uneasily. "Another committee to civilize us! I never see such a power of committees." But he wasn't unfriendly.

"I never civilized anybody," said Demetrios.

"Now I look at you, I reckon you never did," Bosco replied. "Who's the boy?"

"I'm Frankie, and this is the Professor. He doesn't talk, but Miz Solitaire is teaching me to tell what he thinks."

The old man nodded. "Looking for a job, any of you?"

"Depends," said Demetrios. "We're heading west."

"Be you the big boss?"

"Naw, Frankie, I'm Vice-President. Just H.F." He called to one of the caravans: "O T.S.! Mister Vice-President! Company!" The Professor's lute asked a question. "Oh, he's the *other* Vice-President." The lute inquired one thing more. "President? Why, how you talk! Wouldn't have one on the place. You T.S.! . . . You know, it ain't no use going west. Occan, jungle, islands. The map ain't what it was—you could throw a dog through it anywheres." He shucked his frock coat, wiping off sweat. "I got to wear this at the opening tomorrow—for style, T.S. says—but no use killing myself." His blue jeans, like those Frankie and Demetrios wore, had patches at knees and rear. "*Mister Vice-Presi-*

dent! What's gone with that man, I wonder? Sleeps later every afternoon."

Two midgets appeared, man and woman, with another woman close to normal size, about four feet ten. The midgets were in faultless proportion, the dark-haired man three feet tall. The red-haired, blue-eyed women bore a facial resemblance affirming sisterhood. The man spoke in a voice of alto pitch: "T.S. isn't asleep. His sore toe's bothering him, but he said he'd be along." He bowed in the stage manner, not in mockery but as if he enjoyed it: "I am Nod, Minuscule Marvel of the Modern Mundane Masque. I have the honor to present my wife Wynken, and my wife Blynken."

"I'm Blynken," said the taller woman. She dimpled, shaking hands. "Marriage is such a convenience, now and then!"

"I'm Wynken." Wynken's eyes were nearer soft green than blue.

"We werc the Cabot sisters of Lowelltown before we married—originally Kabotski of course—perhaps you're not from Massachusetts—"

"Stuff it, Blynk," said Wynken. "These are friends."

The other Vice-President emerged at last, in his own frock coat. He wore a dainty felt hat too, perhaps only for the sake of lifting it expressively. He was all courtesy, thus reminding Demetrios in no way of the 20th Century. "I don't know

what H.F. is thinking of to let you stand out here in the sun. Do come into the caravan."

Nod said: "I thought I'd go over with—"

"Blynken to look at the horses," said Blynken, "while—"

"Wynken's always crazy about strangers," said Wynken.

"Consound it," said H.F., "they do that all the time. It's like talking to somebody with three heads."

"There's a trick to it," said Wynken, and she reached her hand up to H.F.'s as they walked to the caravan. Studying the newsfaces, she swished her long skirt and hummed to herself:

*"We have come to fish for the
herring fish*

*That live in the beautiful sea;
Nets of silver and gold have
we!"*

*Said Wynken,
Blynken,
And Nod."*

Both old men were white-haired, carved with wrinkles, eyes a little blurred at the iris. They moved carefully on thin legs—(T.S. gave no sign of martyrdom to a sore toe)—but they did not stoop; they were clear-voiced, pink-cheeked. They graciously indicated which parts of the caravan floor were best to sit on. "We are embarrassed for furniture," said T.S., "a bucolic sheriff having attached some of our choicest pieces, including a rocking

chair to which I was much attached. It belonged at one time to my aunt. Of course it's only a temporary inconvenience." Wynken had served a round of corn spirit in little chipped cups. "Allow me, my dear—" T.S. flicked a handkerchief over the floor where she was about to sit.

Frankie nosed around like a cat in a new house, but he was already in love, obliged to sit down as far as possible from Wynken and become somewhat red and bug-eyed.

"Better times are coming," said T.S. "Something is bound to turn up. It always does. Where are you from, sir?"

Demetrios told the story of Nuber. Sawyer Finn's Circus had never visited there, though Wynken said she and her sister and their husband knew something of it from earlier years. And Demetrios told of Hesterville, of a culture that had died partly from self-hate. T.S. said: "Yes—yes—we hoped it wouldn't happen . . ."

"What would you think of going back west, Mister Vice?"

"Oh, I'm afraid we can't Mister Veep. All changed—we wouldn't know those islands. No public for a circus so far as I can see, and we do have to make a living, H.F."

"That lute would sure give the Circus a tone," said H.F.

"The Professor," said Frankie (showing off some), "is thinking he'll always go wherever we go." The lute agreed. Then Frankie

yielded to inexorable forces and spoke directly to Wynken, forsaking all others: "How old be you?"

"I am as young as I am old, Frankie, love."

"I guess that's all right." He studied his desperate toes. "Only I wish you was coming with us."

The lute spoke in the silence; Wynken was listening. She looked in disturbance to Demetrios, who smiled at her. By his guess she could have been anywhere between twenty and thirty-five; midgets are uncanny. "T.S.," she said, "Blynken and Nod and I have been talking lately about something that bugs us, only I wasn't ready to speak up. It's been on our minds—oh, ever since those yucks almost egged us back there at Betlam—"

"Cruds, every one." But T.S. knew what was coming.

"T.S., darling, we aren't lucky for the show and you know it."

"Land of Goshen, child! Nonsense!" It did not ring true.

"T.S., we *can't* do much except flutter around and be small. And the yucks—oh—Blynken says she's losing her knack with the fortunetelling—it never was her thing anyway. If she could be in our act—but she's too big. Nod and I—oh, we dance, and we're good with the horses because they like us. But it doesn't go over. The yucks want us to be freaks. Oh, it was fairly tough when we were living in the woods, and you were angels to get us out of that, but—T.S., H.F., the yucks

want to despise us. They want to think how wonderful it is of them, not to be little people. If we could be awkward or ugly they'd like us well enough."

"Sho!" said H.F. "That *can't* be, honey." But he must have known it was so. "What'd we do without you, Mary Ja—Wynken?"

"Oh . . . We'll put on a good show tomorrow. Don't worry. We'll sleep on it, talk again. I—" Wynken ran out of the caravan. Glancing back at Frankie. Chickened out, you might say.

[Friday, July 26]

WHAT FOR do we try so hard to entertain people? There's two ways. For Money, like this House, where they come in uptight and we send them out pacified, almost like *Sensible*—like when my old Demetrios used to go on the streetcorners and set his Cap by his feet. Or for love, like when Babette comes to sit with me and tell gossip things to make the Time pass if I'm blue or the Arthritis is giving me con-nimptions or I've got too much Tea into me. I'm bad Company then and I know it, but she comes anyway. bless her, and we fight over nothing till I feel better.

Mister Fleur used to say to our Talent: "Look, Boys and Girls, it's not just Fun they want. They like to make it seem so because they know the rest lies too deep. What they need is to feel they're Somebody and that Somebody Else notices it.

And they want to be touched, so the World won't chill down to a cold Hurt and the Wind blow through 'em," he'd say. "And don't despise them neither for coming here," he'd say, "because that'd be despising yourselves for being here, and I won't have that. Anybody works here is good enough for me, and that means good enough for the fucking World."

Maybe they could nail a man for talking so nowadays, the way the Righteousness is thickening up in Nuber like milk going sour in the jug. We're protecting Democracy and Liberty these days, and that means you better walk soft and not bother the Brass.

We got a new Musician, for my Money he ain't worth a Dam. Takes his pay mainly in meals and Trade, that's all right. Has a Gitter and does some songs pretty good. Old-Time Rock he calls them, he forgets I was a grown-up already when the original was still in Style, me and Sam and Stevie oftentimes laying around making love to it when we didn't feel like hearing real music. This is a Nice-Enough Boy, but for a Professor you don't want a Boy, you want a man that's had Trouble and Joy so's to give him what I guess the Abramites call a Soul-Ripening. Babette she picked him up to ripen, someplace.

I call him Joe which is his Name. The Girls can call him Professor if they want, not me. Taking it in Trade, he favors Glorie mostly, she

being stacked the biggest. Yesterday morning I heard a Commotion in the Room where Demetrios and Solitaire and the Professor used to be, and there they was, him and Glorie, helling around bare-ass. I could see they'd been prying into things. I know we got to use that room for Business, but Babette hadn't finished doing it out. That bitch Glorie had spread out some of Solitaire's things that had to be left behind—to steal and sell likely—half her ass would be enough to split Solitaire's things. I chased them out with a Scolding, because it did give me a turn to see them grunting and frenching all over Demetrios's Bed.

Some of our Regulars are already saying, "Where's Demetrios, what about the Stories we used to have into the Parlor?" All Joe knows is a few flat old porn tales everybody heard before the year umph.

I started to say, I think Entertainment means building a Special Place, call it a Special World, where other people can come and forget the bloody one they got to live in Most of the Time. Like Mister Fleur made this place, and didn't little Shawn make a World too with his crazy Pictures? And my old Demetrios. Or maybe I'm talking about something bigger than Entertainment, if there is anything bigger. No, I don't believe there could be any grander Occupation than making Worlds, especially if other people can come into them,

like I would have made a World for Marcus if I could.

IN THE morning the Company explored Trottersville, to kill time before the Circus. T.S. had given free passes for them all, and would have been hurt by a suggestion that he'd never get rich that way.

Nobody gets rich in Trottersville except the Patrons, the landowning families, and they've already got it. Some artisans and business men like the innkeeper, who call themselves Burjoyces, manage to stay comfortable. The Guilt Craftsmen run small shops, but all essential stores are owned by the Patrons: Welfare People trade there or do without. Angus, nosing around to learn things, was told the Welfare People are so named because Society has their Welfare at heart. They rent small strips of land for subsistence, in return for spending two thirds of their labor time on the Patrons' fields. It is a Free Democracy: in their free hours they may do as they please so long as they stay home. The penalty for a first attempt to leave the district is the loss of one ear. The second attempt is usually the last.

Trottersville is in touch by fairly good roads with a nation in the south called Virginia, importing ideas as well as the tea, silk, and cotton we like so much, even though it's produced by that slave labor which is totally unheard-of in the Free Democracies. The man-

ager of the Trottersville Importers' Guilt told Angus that the Welfare System had been working fine all through the Christian Era, and did he think he could figure out a better one? Also, if he wanted to criticize, him and his dog could gosemplace someplace else to do it.

Angus wasn't criticizing, he just wanted to find out. More and more, he said to Demetrios that day, he was wanting to find out things. An old hunger never satisfied in the Inner City at Nuber—(except by the books!) "The people I knew couldn't imagine I really wanted truth, if truth was any-way uncomfortable or unfashionable." He sat over drinks with Demetrios at the tavern; the others were still out savoring the town and would meet them at the circus lot. "But I did want to find out things, Demetrios, and I do. To find out why for instance that old war ever happened forty-seven years ago. And how different was it essentially from the war that's bound to happen between Moha and Katskil in the next few years because both silly little nations want to exploit the old mines near the borders?"

"Weaponry is the main difference, perhaps. We can't destroy life on the grand scale any more, unless some new technology is built up, and there may not be the resources for that. The difference in weaponry makes a psychological difference. There'll be small medieval wars, with man-to-man

confrontation, the warrior's dearest thrill— you remember your *Iliad*?— and no button-pushing. But it's still war, and we'll have it because we're too stupid to read history, and not brave or intelligent enough to respect our fellow beings."

"Respect, not love. Thou art bitter, Demetrios." Demetrios was not feeling bitter. He was suffering, but pleasantly, from the beauty of Angus' hands, the gentleness of his mouth, a waterfall of light across his shoulder. "Thee and thou—we spoke that way now and then at Inner City. A some-time thing with me—you can even use it along with the modern way."

"I like it, Angus. In Outer City it was usually sneered at . . . Yes, respect. Love is for individuals. Whoever claims to love humanity is a hypocrite or self-deceiver. We love men and women and children, not abstractions. But the concept Man is worthy of respect, and in a climate of respect something politically decent might some day emerge. The American states made a beginning at the end of the 18th Century, but couldn't protect the achievement from watering and other corruption . . . Nobody loves Man, poor monster. An artist doesn't love his art, either—he lives within it and for it, is carried by it, but love has no meaning in that connection that I can see. I love, thou lovest—love is for thee and Solitaire—tell me, is it good between you?"

"Very good, Demetrios."

"It's for Garth and Frankie, for Solitaire and me. For thee and me, Angus." He covered the boy's hands; they responded.

"Is there the body's need in it?"

"I'm old, and yet I don't think I'd care to die without having embraced thee."

"The serpent in Eden— wasn't its name Jealousy?"

"My God!" said Demetrios—"you've given me another story."

Angus grinned. Sobering, he said: "You told me once—it was at the Meadows, the day we met— that love is a country. I like that saying." In Angus there would always be an observer, even a judge, but this took nothing from his warmth—rather, Demetrios thought, it was what made his acceptance a beatitude. "A wide country," said Angus, "with many roads, and no place to walk timidly. I'll always need you, now and long after you're dead, my friend."

SAWYER FINN's circus possessed no tent, and so had made Smallways' back forty like a fair-ground. An area had been roped off where a slope of land allowed a low semicircular theatre. The public could settle there or stroll among the exhibition tents, after paying admission at the gate of Smallways' fence, where Frankie and Solitaire were watching for Demetrios and Angus; the others

had gone in with their free passes. "H.F. says it'll be a real bully circus."

"But he's worried, Frankie?" Demetrios asked.

Solitaire kissed Angus and rolled her forehead on his chest. "Little cat," he murmured.

"Little pregnant cat. Demetrios' fruit'll be a man-child."

"They're worried," said Frankie, his underlip stuck out in bother. "Mr. Virgil says the yucks are coming in too quiet."

"I'm Mr. Virgil," said the man with the handle-bar mustaches, who was attending the gate. No more folk were arriving; the crowd already inside was small. "I have the puna act, and it's account of them we can't let the dog in—I'm really sorry, he's a beauty. Frankie has known me a long time—twenty minutes—so he figured you did."

"Up yours too," said Frankie gently, preoccupied.

"I'll stay out here with Brand a while," Angus said. "Then someone else can take my place with him and I'll go in. But he never pulls when I have him leashed."

"It's the smell. It would make the cats act up."

"Sure."

"Nice if everybody was obliging like you," said Mr. Virgil. "It's a fact, they been coming in too quiet, like people do when they might be looking for trouble."

"Don't see many kids," said Demetrios.

"Ain't many in Trottersville. It's that kind of town."

Frankie said: "Can't people just enjoy themselves and be nice instead of all the time trouble-trouble? Especially at a *Circus*?" With Demetrios he returned to the circus ground, but at a black tent marked with cabalistic signs he said: "Oh, that's just old Blynken—" and ran off about his own researches.

Demetrios ducked his head to enter candle-lit darkness, where little Blynken sat alone at a table with two chairs, peering into a crystal ball. "Draw thou the Inner Curtain, that none may—oh, it's you, hi! Draw it anyway. It's got a 'busy' sign—pity most of the yucks can't read." She lifted off a spangled turban. "T.S. had this damn contraption made years ago for somebody with too much skull. I heard a rustling in it up there a while ago, like mice." She tidied her fine red hair. "Sit. Is it filling up any out there?"

"Not much. Mr. Virgil doesn't like the look of it."

"Ay-yah, and he's got experience! Hold my hand, dear—if anyone busts in I'm reading your palm. Or shall I, for real? Living does write on us, though not the way they think. What a nice old gardener's fist! . . . Wynken was crying most of the night."

"Oh?"

"Bundle of nerves, and today she and Nod must dance on horseback."

She wants us to go with your company, Demetrios, if you'll have us. So do I, so does Nod I think, only he hates quick decisions."

"It would be a joy to us. But we hardly know where we're going, Blynken. 'West' is only a word, and the world's round."

"Don't you really, my dear? . . . Well, for us, the way things happen, Sawyer Finn's Circus took us in at a time when we needed them but they didn't truly need us. It was the old boys' kindness. Mr. Virgil's wife is better at the fortune-telling pitch than I am, but I had to fit in somewhere. Now she takes care of the commissary, laundry and all-what-all—claims she prefers it. I feel temporary. T.S. and H.F.—God, sometimes you'd almost think they *were*—" she studied him, perhaps testing his acceptance and compassion.

"It would be a delight, any time," said Demetrios, "to talk with you about the different facets of truth. We'd never run short."

"And I could serve tea. Well, T.S. talks about retiring, but it would break his heart. H.F. says more sensibly: 'Looky, Tom, I been retired all my life and what good did it ever do me?' But we're a different sort of freaks, modern freaks at that. New-century people."

"Like T.S. and H.F. I live in both worlds, at home in neither."

"Where's home, ever? We're not at home here, we three, but—oh,

it's hard even to think about a break!"

"Was that the only reason Wynken was crying?"

"No, sweet man." Blynken looked away, head tilted, listening to crowd sounds beyond the tent. "God, I wish I was small enough to be in their act! No, she was thinking of Frankie, and of all young people the way they are before the world rolls over them."

"Nothing new-century about that, Blynken."

"For sure, for true! It's our covenant with nature—Wynken said that, last night: so much to enjoy if we can, and then return the raw materials. But—so short a time for being Frankie!"

"That other almost-question you almost asked: no, I really couldn't tell you where our Company is going. But I think, as an old man may, of a republic growing up, slowly, isolated for a while in a rather empty world with a number of slag heaps—growing up from a beginning made by this handful of human beings who are traveling with me. I didn't choose them—that man Bosco will probably leave us to look for a certain Rambler gang—"

"I hope he does. I didn't like him."

"Oh—probably no real harm in him."

"There is," said Blynken—"no, never mind. I may be wrong. Go on, tell me more, Demetrios."

"Well, I didn't choose them and I don't lead them—but the potential of generous leadership is there against the time it's needed. Love and chance drew us together, and I begin to see we have certain qualities in common, qualities that were never of much influence in Old Time: we are able, for instance, to love without jealousy. We can enjoy remaining separate beings while we cherish the community that we have with each other."

"Was jealousy so great a thing in Old Time?"

"I was thirteen, the year of the Crash. I saw little jealousy, but mine was a rare sort of family for the 1990s—they gave me education as well as love. The social tradition was loaded with jealousy, and there were still people who made a virtue of it. That had begun to change twenty or thirty years before I was born. Some of the young people of the 1960s and '70s were able to bring peace and generosity into the sexual freedom that earlier generations had won only partway and in bitterness. The Crash put an end to many bright promises. Well, our Company has faults, and we haven't been much tested yet, but so far I've seen no cruelty or meanness, no grabbing, no greed."

"There's been none with us three. Demetrios. Nod and Wynken and I have been natural lovers for more than three years."

"I think it can happen only for small groups, small enough to keep

sensitive person-to-person communication—that's the heart of it. Old Time at its worst was an urban thing, unable to comprehend the importance of small groups. The mass communications that should have been a simple public service became a dominating horror of homogenized stupidity. The small groups themselves forgot their importance, yielded up the virtue of town meeting without a struggle. You'd think they could have remembered that the family or tribe or commune family is the servant of the individual. It's Frankenstein's original necessary monster, and must not be permitted to turn on its maker, or hell is loose. The village, a larger monster, is the servant of the family, and the far-off central government, if there must be one, greatest and ugliest monster of all, is still by rights the servant of the village, and ought to be in direct communication with it, directly answerable. But in the uproars and terrors of Old Time, this simple idea, the obvious essence of representative government, could scarcely even make itself heard. Impractical! Impractical! And of course it was, once the swollen political and corporate growths had become inoperable . . . Well, maybe what our Company starts with won't carry through. Making a republic is a labor for the gods, and we aren't gods. But I have this old man's thought, and I have my hopeful moments."

"We need an island," said Blynken. "An island meeting certain specifications."

Demetrios was happy. Often later he would enjoy this ability Blynken has to take what you say as a creation to be shared, as if with your four hands you held up a new picture and considered, artists with a common devotion, what more might be done to make it live.

The crowd noise changed. "Hell, that's trouble!" said Blynken, she jumped up to fling open the curtain. "Stay with me, friend, and hang onto that stick."

SUNSHINE hit their eyes. People were running in it—not many, but they were high with that tension, that witless gap-mouthed hunger for a spectacle of disaster, which can make a few look and smell like a multitude. They were running and stumbling down toward the stage area, the level ground below the natural theatre, and down there, like flowers tossed about in a water-bucket, gaudily dressed Wynken and Nod were trying to keep their footing on the bare backs of their horses. Yesterday the beasts had been gentle snufflers; Demetrios had petted them, and seen Wynken and Frankie and Nod climb around all over them. Now they had gone mad.

They reared and plunged, Wynken's beast choking, Nod's venting a wild miserable scream. H.F.

managed to grab the bridle Wynken had lost, and was thrown about like an old stick. Garth running to help him shouted to Demetrios: "The bastards spooked them—clods, with pepper! They think it's funny."

As Demetrios hurried down—Blynken had already darted far ahead of him—he saw Wynken lose her balance and tumble asprawl of the horse's tossing, writhing neck, saving herself with a clutch of his mane; and the crowd yelled with delight. One voice squawked out above the rest: "Make with the porn show, Baby! Strip!" Others took it up, finding a rhythm: "Strip! Strip! Baby, Strip!"

Nod vaulted down. He wrenched his horse's head around, and with a slap and a yell sent the beast running blind toward the spectators, whose laughter ceased. Somewhere among them Bosco had just picked up somebody and thrown him at somebody else.

By the watch on Angus' wrist, the Battle of Trottersville began at 3:01 P.M., Friday, July 26, 47, when he heard trouble and pushed through the gate with Brand a leashed storm at the end of his arm, reached a climactic point when a crow-voiced yuck hollered: "Let's clean up the joint!" and a higher point when Angus hit him. It ended at 3:05 when Frankie jumped on a barrel and yelled: "Run for your lives! The pumas is loose!"

T.S. later told Frankie that this

was the noblest lie of the Year 47—no, more likely the noblest of the decade, or say the century. It had cost Frankie almost sixty seconds to arrange it with Mr. Virgil and help him wheel the cage out of sight behind a caravan and cover it with a tarp.

During the four minutes Demetrios' stick had connected with at least one skull—he hoped it belonged to the one who had yelled for a porn show, but there was too much dust to be sure. He witnessed Angus' arrival with Brand, and rested a bit, panting but able to relish it when Brand tore off somebody's loin-rag before Angus saw fit to restrain him. The man had looked almost like a policeman before he lost his modesty and ran for it, but that could hardly be—likely Demetrios' fevered imagination. On the whole, a lovely fight, though too much exertion for one of his years.

There were other head-smashings and arguments. Wynken had been able to jump down clear when Garth quieted her horse; H.F. scooped her up and ran with her on his shaky legs to the shelter of a caravan. After that Demetrios had the soothing impression of Garth and Angus hitting a lot of people, with aid and advice from T.S.

But Frankie decided the day. After his shot it was all over. The beat and elite of Trottersville retired from the field like piss off the end of a dock.

XIII

*Nothing is just too big,
you can't look at it.*

*And I turned myself to behold
wisdom, and madness, and
folly: for what can the man do
that cometh after the king?
even that which hath been al-
ready done.*

*Then I saw that wisdom
excelleth folly, as far as light ex-
celleth darkness.*

—ECCLESIASTES, II: 12, 13.

THE COMPANY and Sawyer Finn's Circus considered it intelligent, after decent reflection, to split, and the Company gladly accepted the offer of a ride as far as the next crossroads that led north.

The farm of Jason Smallways lay to the west of Trottersville. Angus, Brand, and Bosco made a portentous progress back there to pick up the gear still at the tavern. Angus showed a black eye and Brand two red ones; Bosco was moved to roll his muscles like a bear; nobody bothered them. None of their stuff had been stolen except one ham, and Bosco said never mind, there might be some way to correct this. On their safe return, the rest of the day was spent in nursing bruises and readying for a departure at dawn.

Night travel is unsafe anywhere but especially in Penn, where the most convincing tales of brown

tiger come from. He has (folk say) attacked villages down there and carried off people, sometimes haunting a particular region for weeks or months like a burning conscience. Tawny stripes, they say, on a pelt like a cloud of white and cinnamon. The stripes melt into the colors of morning or evening, and if you see him at all at those hours it's probably too late.

T.S. wanted to go north. He had a hankering to take the Circus all the way to Nova Scotia where the evangelines are, and though Demetrios warned him they might not be there now—it's the change of climate, evangelines need the northern winters or something—still T.S. allowed he'd give it a whirl. But the Company wanted west—two moonshines are as good as daylight, maybe. And it was that night, in the good quiet, with the drinks, the music, the campfire mood, that we agreed Wynken, Blynken, and Nod would go with the Company.

That settled, T.S. kissed all the girls including Solitaire goodnight and potted off to bed. H.F. sat up a while to hear Demetrios tell the story of how brown tiger might have come to haunt this part of the world where no such beast was ever known in the past. It's a story of one of those mad saints who bloomed in such profusion in the dying years of Old Time. Not long before the war, this fellow slunk about to the zoos in several of the great cities, liberating the beasts under

cover of night, burning off locks with what was called a blow-torch. Some believed he was not one man but a group of conspirators. One man, Demetrios thought. Anyhow the episodes ended after that one man, who kept a diary and called himself Jack the Liberator, was found gored to death by a Cape buffalo he had let loose. It's a harsh, sad little tale—Jack had no love for the animals, he just hated the world—and your novelist may write it some day remembering Demetrios' words, but not here. Among the creatures set free by Jack was a pair of Manchurian tigers, the female already heavy with young.

H.F. went to bed too, not forgetting to kiss the girls. Bosco had slipped off somewhere, his absence for a long time unnoticed. All were comfortable and lazy, but even Frankie not yet sleepy—(our hero)—so in this hour the new members saw fit to tell their new friends something of what the world had done to them and they to the world, since they would now be sharing joy and trouble and love and danger with Demetrios' people all the way to the other ocean.

"Nod," said Wynken, "was born Seiji Ohara, the last name being a good Irish one even without the apostrophe, as had been noted by his great-grandfather Seumas O'Hara when he arrived in Boston from Bally na Hinch in 1854, not very skilled in the English spelling

of foreign names—that is, when the apostrophe dropped he was not after stopping to pick it up. Thus it came about—”

“—that we skip a generation,” said Blynken, “arriving at the marriage of his grandson Stockton Ohara late in life to Teru Kamayatsu who in 1985 turned up in that course on *The Socio-Ideological Matrix of Piers Plowman* which Stockton was then conducting at a well-thought-of university located in Cambridge, Massachusetts. For some years they were childless. Stockton in his sixties, having undergone an unusual number of diagnostic X-rays in addition to the atmospheric and other radioactive pollution which was politely referred to as normal, believed himself to be sterile. In 1992 he retired from teaching, and the two went to live in the town of Hoton near the New Hampshire border, where they were when the war came. Though untouched by bombing effects apart from radiation, the town was severely damaged by the earthquakes of the Year One, and decimated by the plagues. It was hardly more than a camp site in the ruins when, in the Year Four, there was born unexpectedly to Teru and Stockton Ohara a son—”

“—who is now forty-three,” said Nod, “and looks it, being thus two years older than his beloved though garrulous wives. They were born, Wynken being the older by two hours, at another small but famous

town in Massachusetts, in the Year Six. Their father Ignace Kabotski, who had been a child refugee from Poland in the European famine of 1978 and who never—”

Solitaire cried: “But Wynken *can't* be over twenty-five!”

“Love, I’m forty-one,” Wynken said, not looking at Frankie.

“But with my crow’s feet and double chin I show it,” said Blynken.

“You imagine them,” said Wynken. “On me of course *every* old thing is so small it doesn’t show.”

“Anyhow what looks like my middle-aged sag is actually—”

“O beautiful!” said Solitaire. “This too.”

“Maybe we can pop together,” said Blynken.

“If I may now again intrude, their father Ignace Kabotski, a refugee who never did change his name to Cabot in spite of Blynken’s tendency to say he did, really a deplorable inverted snobbery—”

“A natural defense,” said Wynken. “Even after the war the town was full of stuffpots. We grew up with ‘em.”

“**I**GNACE Kabotski,” said Nod, “was the acknowledged leader in the effort to hold that town together after the Crash, stuffpots and all. The mother of the girls died in an outbreak of diphtheria in the Year Nine, so they but dimly remember her. By the time the twins (obviously not identical) were

out of early childhood, it was evident that Wynken would be, as I am, what people call a midget, while Blynken would grow to normal or almost normal size. Ignace believed in the virtues of learning, a conviction strengthened by the calamities of his century. He held that there are only two important ways to avoid the consequences of folly: one, to act with wisdom; two, never to get born. Since wisdom is an acquired quality, he set himself with devotion to give his daughters the firmest and widest education he could manage under the difficulties, a training which—

“—even now renders us capable,” said Wynken, “of sharing the bewilderment of this boy Seiji Ohara growing up in surroundings where an accepted and tolerated desolation was the norm. Hoton was a ruin inhabited by slow-moving giants with broken hearts. Compassion usually comes late in adolescence if one is to learn it at all. That was so with Seiji, intensely impatient with these big dazed people while they were all he knew, full of pity later when they’d been swept off the earth. He loved his mother, but she too was existing in a state of shock, almost as hazy as the rest of them. Seiji’s old father—accustomed to teaching the fantasies of medievalism, and to grown-ups—did his best to supply what basic education he could: reading, writing, figuring, enough history

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for a start. He died when Seiji was twelve. Teru carried on as best she could—Seiji was not a manageable brat. She still believed when he was fourteen that he might have a spurt of growth, though his hands and feet never had the puppy largeness of a growing boy's. The loneliness of Hoton was extreme, partly—"

"—because of ancient vanities," said Blynken. "After the war most stricken groups wanted to join others, as you've told us wanderers drifted into Nuber. Not so in Hoton, nor in Lowelltown. They still felt the world ought to come to them; when it did, it might come with witless cruelty. Sitting still, waiting for better times, those ghost towns were easy prey for outlaws, wild folk, the new savages. In his fifteenth year Seiji was working with his mother in their corn patch when three horsemen came storming out of nowhere and snatched up Teru. Seiji they flung aside—"

"I bit the wrist of the one that caught me up and felt it crunch. He yelled, I landed in the dirt, and they were gone."

"Then he saw others of the band setting fires and butchering his neighbors for pleasure. He escaped into the woods, and was joined by a few survivors from Hoton and other ravaged towns. They formed their own wild crew. They valued Seiji in spite of his smallness because for a while he was fiercer than any giant, and quicker than the rest of them to learn woodcraft and hunting.

His speed and silence in the wilderness are uncanny. He took part in certain acts of reprisal—"

"—which he prefers not to remember," said Nod. "We never caught up with the men who took my mother. When I was seventeen I understood we were simply turning into bandits ourselves, no better than the rest. I left them, lived in the wilderness alone for two years, visiting human habitations as a listening shadow. I needed little. Arrowheads I flaked out from the flint, still do. Worth the effort—with my light bow I prefer them. When in need of something that couldn't be had except by stealing, it was—"

"—his whim to leave something in exchange," said Wynken, "such as a rabbit pelt for a hank of yarn."

Mr. Virgil remarked: "Woe unto anyone else who talked in so."

"They don't know the signals, man Virgil," said Wynken.

"They didn't murder me," said Solitaire.

"Well, you're a sweet kid," said Nod. "We make exceptions."

"Actually more than a whim," Wynken continued, "for Seiji was then and is now more ethically decent than his wretched little wives, who seek to profit by his example yet make at times but a halting progress, hm. (You used the first person singular, Solitaire honey.) They had, it's true, that education he mentioned, but it sometimes abandons them. It had, when Seiji

first observed them out of his forest invisibility, as they stumbled down an empty road without any idea where they were going, because the wits had been knocked clean out of them. At that time they could have been called temporary idiots. You see, Lowelltown also was wiped out, by sickness. We don't even know what the epidemic was. There weren't any Old-Time doctors left there; it may have been a new thing anyway—violent fever, rash, glandular swellings, sudden collapse. The town had survived the post-war plagues, diphtheria, the red plague of Year, Sixteen, but this one cleared the slate. I mean—*every-one*, except my sister and me, the beauty and the midget, explain it how you will. When we grasped what had happened we only thought of getting out, going down the road, no goal except escape. Blynken, whom I knew then as Sophia, wanted—”

“—to die, or so I said, but you made me lie down in the shade, Miranda, and took my head in your lap and said to me: ‘No, you will live—’ and so I lived. For a while I slept so deeply that one world fell away from me, though—”

“—all the worlds,” said Nod, “may be full of illusion as well as truth, and their philosophers amazed.”

“And when she woke Nod had already come to us, standing there naked and beautiful, with his bow—”

“—and hardly taller than you, Miranda. So my thoughts went racing down the millennia, every one of them a praise of life—”

“—and the wind had played with the hair on your forehead while you slept, your breasts were white and virgin.”

“And the first words he spoke after Blynken’s waking were: ‘Come with me so we can care for each other and not be lonely.’”

“Therefore I knew he was of finer substance than the gods, namely flesh and blood. And now I will explain our names, but I’ll do it in a subdued tone of voice because our hero, without whom Sawyer Finn’s Circus might well be lying in ruins, appears to have fallen asleep. The explanation is simple: our mother we don’t quite remember knew that funny old poem and a bit of music for it, and sang us to sleep with it, and so did our father after she died, and—”

“—sometimes you sang it for me when I was drowsy in the hot afternoons or the nights in the forest and the other places we’ve known, so that I learned it. And I sang it for you, Wynken, when sleep abandoned you in the bad time after our baby was lost. Then when we happened on the Circus, and T.S. so kindly invited us to join them, and asked our names, we thought, why not name ourselves after a fragment of Old-Time fancy? Though it’s true that we are spirits of another sort, still, Shakes-

peare is not for all occasions, and—ayah,” said Nod, “Frankie’s asleep for sure. Sounds like a very small porpoise.”

“Where did you ever—”

“—hear a very small porpoise?”

“In your dreams.”

[Saturday, August 24]

IT’S MORE than a month my old Demetrios has been gone, and sometimes Babette and me play wonder-what about what’s happened to them. But that Game can’t feed on Nothing. Babette said today, Nothing is just too big, you can’t look at it.

Professor was the First. Seems to me it was twelve years ago he turned up on my back Porch with his Lute, and played, and looked at me in his Particular Way. And was it ten years ago Demetrios came to me?—I get mixed. Before Babette anyhow. Solitaire was here only two years, but I did Love her more than any of them knew. Not wanting to get in bed with her like I’ve done with Fran sometimes, not Motherly neither but still a wanting-to-help Love, for it was strongest in the Times when she got wild, it was like seeing an Angel in a Spiderweb.

Me and Babette pretty well know, though we don’t say it, that we ain’t likely to see those three again, nor Garth and his cockahoop little Brother, nor that young Ristacrat—he was all right, I liked him. I think he’ll do Solitaire good, anyway he’ll try. And that

Character Dimmy picked up in the Jail, Babette said he was the Practical Type. Well, but if they do come back it won’t be soon, and there’s that lump in my right breast.

I hope I don’t go talking to Babette about that just for lonesomeness, because what could she do? There ain’t an Old-Time Doctor in all Nuber, and any new-time Surgeon likely makes his living as a Barber, they can Keep That. I believe I can wait my time without too much fuss, I wouldn’t be the First and won’t be the Last. Why would anybody be afraid of Death unless he’d talked himself into thinking there’s an afterlife? I couldn’t do that. I tried, after Marcus, was still trying when I came to Nuber, though Myself kept saying to me inside, You Fool, it ain’t wishing anything will make it so.

Mr. Flehr he knew how it was with me. He said to me, quiet and kind, he says, “Stell, you ever black out?” I said yes I had, couple times. He says: “It has to be like that. No blood moving in the Brain nor breath in the Lungs, why, no Thinking, no Feeling. No Thinking and Feeling, no Person. Don’t despise the Body, Stell,” he says. “No Body, no Mind.” I’ve been quiet inside about it, since.

Dying, yes, we can be excused for hating that, that seems like a bad Animal coming after you. But more than half of that is just Funk, like being afraid of the Dark. I guess when the Tiger picks you up, you

anyhow know it won't be long.

Lately I've took to the habit of carrying a Stick to lean on when I go out into my Garden, I know why it was Demetrios liked to have one, only for me it's the Arthritis made me think of it. Suppose I write about Something I seen in the Garden a while ago, when I was Poking around.

That fella Joe is doing a mite better on the Janitor Work, but he don't so far give the Garden no more than a Licking and a Promise. Babette she keeps after him, tries. He can always find new ways of resting onto the job. Some places that my old Demetrios kept neatened up has already gone to weeds in the time he's been gone. I tell Babette, Don't sweat Joe too much, he's got to ease into it like Gradual, and maybe weeding does bother his Gitter Fingers. Maybe it do, she says, only Professor never minded pulling weeds, he'd do it for love, not ast. Joe ain't Professor, I said to her, so let him grow up a little. Anyhow—

There's this stretch in the Border where Demetrios has set out Lilies for me, time to time, some the neighbors have give me and some he's found around the Countryside where Old-Time people used to have Gardens. There's early-blooming white ones, and some big fragrant Whites with a goldy center, Regals Demetrios called them, and a fawny tan one, and of course the common kinds too, some being

Day-Lilies and Tiger Lilies like I remember growing wild in Raeburn. So I was out there in the deep Sunlight leaning onto my cane, and thinking back I suppose—that's natural. Then I seen how the grass and wild convolvulus and Things had gone to growing thick where Joe hadn't done nothing. So I felt bad about that, I even started for to reach and pull, but the Arthritis knocked that idear out of me, fast. But further down the Border I come on a gaudy common Tiger Lily standing in the sun with his sword-leaves and funny black knobs and his buds opening out full. There was this convolvulus wropping itself around him, and a Catmint crowding him along with the rank Grass. He just stood there looking like my old Demetrios. He didn't mind, he made me think of any good man or woman in the sun, with a burden but carrying it, and with Time left over to recognize me. That was all—I felt better and went back in the House and had my Tea.

It's only the having to stop that gripes me. Having to stop even the small things, the good Breakfast or a touch of the Corn Spirit, or Music heard someplace down the Street, or seeing a new Face with something sweet in it, or an old face with something New.

But we stop.

GARTH AND the other grown-ups sat up a while worrying about Bosco, which was unnecessary at

least so far as the man's physical safety was concerned. H.F.—not sleeping well these days, he said—emerged in night-shirt and slippers to help them worry. He had been sorry not to be able to tell Bosco anything useful about Gammo's Ramblers. Some three or four years ago the Circus had entered a town up in northern Moha which had only just donated all its loose change to a Rambler company of that name, and T.S. had taken pains to learn what way the Ramblers had gone, so as not to meet them again under those conditions. Gammo's Ramblers were heading west, but that was all he knew; Bosco had taken it philosophically.

Bosco returned at about midnight, soft-footed, with a ham under his arm and a chicken carcass dangling. "Could even be the same ham," he said proudly. Seeing Demetrios' distress, Angus' disapproval, Garth's startled anxiety, Bosco grew sulky. "Well, I figured the chicken's a sort of commission—you know?"

"Seeing what they done about your ham," said H.F. uncomfortably, "I reckon you could say tit for tat, still it don't seem just right, Bosco. T.S. ain't going to like it. T.S. is going to call it stealing, a body shouldn't do it. Did you have to bust into a house?"

"Woodshed," said Bosco meekly enough, perhaps respecting something venerable in Demetrios as well as in H.F. But the meekness it-

self was not pleasant. For some time Demetrios had been finding it difficult to adjust his republic to the presence of Bosco as a citizen—but then, where was the republic? "Jasus!" said Bosco—"I figured you'd be pleased." Nobody said anything. Bosco searched Garth's face with especial intentness, and got no comfort from it. "Well, Jasus, you going to be down on me just for picking up something, maybe I better skin out. I won't stick around where I ain't wanted. I can just take my ham and my god-damn chicken and by God split."

"No need of that," said Demetrios, and wondered if he meant that at all. Leadership was not in him.

"So long as you know," said Angus, "how the Company feels about it, stay with us, Bosco. Stay and learn our ways." No one of them before, so far as Demetrios remembered, had spoken of The Company in just that way, with that authority. He could not have done it himself without selfconsciousness.

"Well, Jasus—" Bosco was unlikely to learn much, but Angus might have said the most assuring thing as well as the right one.

"We done things thataway," said Garth, "we'd be in hot water all the time, Bosco. We got to treat people by rules they understand, right? Like if a bunch of 'em come after you now for busting into that shed,

everybody'd get hurt, and maybe we couldn't turn them pumas loose a second time."

That seemed to reach Bosco. He rumbled miserably, flung down the ham and chicken, brushed his hands. "Well, Jasus—"

"I figure," said H.F., yawning, "you was tempted beyond your strenth, Bosco. It's a noble ham."

Bosco allowed his feathers to be smoothed; the Company went to bed in peace. We lent a hand getting the circus wagons under way at dawn (Bosco working harder than anyone) and rode along in them all through the morning.

At about the noon hour we halted by a crossroad for a meal with ham in it. Then, after many loving farewells, after T.S. had scrupulously paid their back wages to Wynken, Blynken, and Nod, and got a receipt for it, after T.S. and H.F. had kissed all the girls (Blynken blubbering a little bit), Sawyer Finn's Circus took the northern road, and though the road leading west dimmed out in grass, we found others after a while. It is not hard to travel by the sun. When the sun goes down in glory it's time to sleep; when it rises all you need do is hold it behind you till the noon, and rest, and go on to the end of the day.

AS YOUR novelist, I too regret that you should be somewhat losing awareness of Demetrios'

viewpoint. But viewpoints—(what an odd, inaccurate word!)—viewpoints do fade, even cease. It engages my vanity that I have been able to give you as much of his as I have—but there, I knew the man well, as they say, and spent many hours in talk with him, rambling, observing, questioning in my sly manner, so that if there's anything in his life, even from the faraway beginnings in Hesterville and including the details of the years in Nuber, the fun and troubles of the sex-house, the garden he tended, the worries over Mam Estelle and her tea or the sound of Elizabeth of Hartford beating up a cookie batter with an Old-Time spoon and bowl—if there's any of that I don't either know or have snuggled down in my notebooks, it's hardly worth mentioning. The notebooks made up a good deal of the weight in my bac-pac till I talked Garth into carrying some of them for me. I believe I told you Garth couldn't read. Angus and Demetrios fixed that, and he was a quick study, not a passionate spark like Frankie but bright and eager for discoveries, but my tiny marks in the notebooks are a shorthand of my own. Besides, Garth was always a sweet kid, and wouldn't have peeked without permission. I could use his viewpoint—(some time I intend to malyse that word; not as absurd as "standpoint" but still pretty crazy)—his viewpoint too if I was a mind to: an adolescent boy is not

really any more fantastic than other warmblooded animals.

DEMETRIOS' viewpoint—the reader may now supply his own exegesis, since the novelist is out of sight again—was becoming somewhat clouded by forgetfulness, that mental cataract. There was also the worm of pain that more often made its journey up and down in his belly and probed more detestably, and the presence of this creature was bound to color his thoughts.

A morning came when the rain fell lightly. It would not have interfered with the Company's traveling, but Angus decided that they should rest that day, and so they stayed in the shelter of a fine stone barn that stood sound where no house was. Rain ceased and the sun appeared in early afternoon, but Angus said it was too late to start, also he thought Brand was slightly lame from the chase of yesterday when Bosco had failed to bring down a deer with the first arrow. Bosco had been using a new bow Garth had made for him—Garth handy at anything, and Frankie ever-present with the sacred hatchet—and had been in too much haste for good shooting. "So let's loaf the rest of the day and chew venison," said Angus. "The western ocean will wait for us."

It never occurred to Demetrios that the rest was being called on his account, nor did he notice that

when they continued the following day, travel was slow, with numerous halts.

He enjoyed the new pace, enjoyed the heft of his walnut stick, enjoyed resting in the sun with his back against a tree-trunk. Someone was always with him, he noticed—Solitaire, very often Wynken with her small voice and curious green eyes, occasionally Frankie with not much to say, but most often Angus, who was never far off even when someone else was keeping him company.

One day the Professor and Angus were sharing the sunlit shaft of a broad oak with him when he noticed Solitaire in conversation with Blynken, and he saw that Solitaire was disturbed. But it was not one of her trouble-times. In fact, unless his tiresome memory was betraying him (and he had found that it was already interfering with his telling of stories), Solitaire had not gone through any of those storms since the little episode on the approach to Trottersville. And now she merely looked excited, like one who has stumbled on something pleasant—a coin shining in the road, a friend's face in a crowd of strangers—and Demetrios heard her say: "Oh yes, Blynken, do let's pop together, and you can name your baby after mine, and I'll name mine after yours, but Blynken, love, don't ever call me Solitaire! Who was she, this Solitaire! There was never any such person, only

me, and I am I, I am I, and my name is Eve."

XIV

*When I'm Building
I'm Right with Myself*

But we are spirits of another sort. —Shakespeare, A MID-SUMMER NIGHT'S DREAM.

WE CAME by this slow travel into a region where the air held an odor of salt and seaweed, as it sometimes does at Nuber or in the eastern nations when the wind blows from the Atlantic, the ocean that no one crosses in our lifetime, perhaps for many lifetimes to come; but here in the place where Penn has no border, where the known and the wilderness come together with no more sign of joining than there is in the coming together of the sea waves, the wind was blowing out of the southwest, and it was warm. "Salt marsh maybe," said Bosco. "But I can tell you it's durn-much like the air I smelled near the coast of the Freshwater Sea that ain't fresh, that earthquake country of western Moha. I'd think I was there if I didn't know we're way to the south of it."

It was the coast of the inland sea; nothing else could be so immense, so overwhelming with the sense of eternity—and yet it was new, an in-flowing of risen waters where

recently there had been farmland, forest, cities, roads. New, and old—in earlier millennia, Demetrios had told us, a shallow ocean had covered this land for immeasurable centuries. We were already somewhat south and west of Penn, perhaps. Demetrios had said we would not pass through the town of Aberedo. When Nod asked him how he could be sure of that, the old man's answer was doubtful. He said his journey—he must have meant the journey of all of us—led through time as well as space.

"So does the journey of a rock," said Wynken, "as the turning earth carries it, and the earth's orbit moves with the galaxy." Demetrios looked on her with kindness and some amusement. Wynken is not to everyone's taste, but they had become close friends. Demetrios would have carried her when her little legs grew tired, but in these days he had not quite the strength; the others were burdened with their bac-pacs and similar gear.

"Let Brand carry you," said Angus, and sometimes Wynken did, riding his back for short distances, the gray hound walking proudly and laughing with his tongue at the side of his mouth.

But at this coast our walking had come to an end. A town stood here, with no people in it, and the ancient highway that had brought the Company to it ran down into the sea. No people at all. An empty square, most of the houses fallen in

and some overgrown with vines, old street signs dangling, a few. Beyond the abandoned square, into a once-paved open area where even now few seeds had been able to exploit the cracks and make them useful—I think it was what Old Time called a parking lot—into that desolate open space the waters came white-tipped and whispering.

In the west the sea met the horizon, though at the southern section of that arc a rise of hazy blue suggested the presence of land. The sun was shining from behind us on that hinted island, for we had come to this place in middle morning. We saw the strong light touching what may have been a cliffside or waterfall, and Demetrios described this for Angus. Then they moved further away, and I saw them standing at the very edge of the small waves, Demetrios still speaking, but too low for me to hear, his left arm over Angus' shoulders, his other hand with the oaken stick pointing here and there—but it was Demetrios whom the boy's near-sighted eyes were watching, with trouble and tenderness; and it's true that island to the south was so far from us you'd think only a dream could reach it.

Now earlier that morning we had passed an old signboard carrying several names, with figures after them indicating distances, and it seems to me that one of the names may have been Aberedo. Yet Demetrios did not speak of it, and

he looked on this ruin of a town with no sign of sorrow or recognition, asking Garth—possibly he meant it at first only as one of his mild jokes—whether he knew how to build a boat to go on with.

"No, man Demetrios," says Garth, serious as always, "but you tell me how, and if it's made of wood and I ain't hurried, I believe I can do it."

"September's a-going toward winter," said Bosco. "Couple months, like. Shelter of a house, even one of them wrecks, would be handy, if it takes till cold weather to build your boat."

"What about repairing one house to live in," said Nod, "in case we're still here when it gets chilly, and using the rest for lumber to build our boat?"

He said "our"; Bosco had said "your"; likely the whole Company noted it.

We discussed the idea comfortably through a lunch that was embellished by apples from someone's long-ago garden, where we sat protected from a brisk damp ocean wind. It seemed a good idea: practical, reasonable, and foolish enough to be interesting. "If my baby is born at sea," said Eve who had been Solitaire, "he'll live long and always be safe in a storm. It's an old Lowelltown superstition, right?"

"Tell 'em how old," says Wynken.

"A day old. Blynken made it up

for me yesterday while we were cooking bacon and comparing bulges."

"Hours and hours and hours ago," said Blynken. "Mine are bigger than thine."

"Phoo."

"I can't help it," said Nod, "I love all those women. Well, I'm in favor of the boat. We'll need smoked meat. I'll be hunting while Garth is building."

"We want an island. Demetrios and I were getting that settled when Frankie turned the pumas loose."

"And rode the big one three times around the lot," said Frankie. "Don't leave that out."

"That island we see from here," said Demetrios, "is not really far away. Maybe we'll want something further off. If there's to be another republic—another attempt to make a republic—it might need to grow a while, undisturbed by the efforts of worried strangers to destroy it." He looked at the Professor, who was usually ready to confirm or deny the good sense of his remarks; the Professor nodded. "Let our island be one not too easily discovered," said Demetrios, "and large enough to support a few hundred or a few thousand souls with a taste for love and a taste for privacy."

THUS IT was agreed—though Bosco made a production of saying damn-all nothing about it one way or another—to build a boat.

Garth examined the gaunt gray structure that was sheltering us from the sea wind, Frankie close by him in case he needed the Hatchet. He kicked the clapboards, sounded the walls. "This one might do to live in," he said. "And we'll find stuff here and yonder, for the building." Then he and Frankie went inside the place to consider beams, studs, floor-boards, the state of the roof, while the rest of us explored the town.

Demetrios was attracted by a heap of rubble where he glimpsed on a charred signboard the letters DWARE. He poked with his oaken stick, uncovering a hammer rusted but not spoiled, with a metal shaft, and a grip still covered by a good-handling material unknown to us. The hardware shop must have been burned before the looting was finished, and its treasure buried from sight under plaster and trash and charcoal. Bosco and Nod helped us. We grubbed and be-sooted ourselves in the ruin, winning two hand-saws still with a coating of the manufacturer's wax, some barrels of nails, a two-edged ax, an auger with a set of bits, a draw-shave. There was of course much intricate gadgetry that Demetrios recognized as electric, which we tossed aside.

Returning to our house and garden, we found Garth and Frankie already engaged in renovating. The front room possessed an enormous window of heavy glass

amazingly unbroken. Other windows, gaping and forlorn, could be boarded up against winter winds, and through the great Old-Time window we could watch the ocean's changes when the sun went down. The chimney was sound, the fireplace in that main room large enough so we could cook there, and the room would also accommodate our sleeping gear. We noticed signs of rats, but after Brand had spent a night or two with the run of the house we heard no more scampering in the walls.

Garth with our loot from the hardware store was a happy man. His happiness spread about him, as light will, touching Blynken with a particular radiance. "With that stuff we can go on a ways," Garth said. "Aye-so, when I'm building I'm right with myself." Later, after his work routines were established, and the mild winter brought certain days of rain when he could not work on the boat, Garth made us more of those small carvings which to him seemed nothing wonderful. For Blynken he carved a swan with lifted wings, and she said in the same hour that she hoped Garth would father her next child. It is like that with us; I hope our easiness with one another will continue when the ways of living grow more intricate, as I suppose they must.

Frankie was illuminated with satisfaction too that first day in the town that was probably not Aberedo, when it was decided that

certain wall-hooks in the Old-Time kitchen should be sacred to the priceless tools, and that Frankie himself should keep watch of this, empowered to raise hell with anyone who failed to replace them after use—and cleaned too. Angus laid his hands on Frankie's shoulders, and though he may have intended a jest, when he spoke it was in solemn earnest: "From this day forth thou art Toolwarden."

AND THAT is about the way we have used the old second person singular ever since—for emphasis, or special events of solemnity like this one, or those astounding occasions when two or three people (possibly even more though I have never known it to happen) not under the urgings of desire or self-importance, are able to share and enter one another's lives however briefly, doing so lovingly and unafraid. It may happen without speech, but not with much depth, for words—the right words, seldom heard—are like no other sort of embrace. That is why the Professor troubles me, though I love him dearly; but on the island Peranelios (which we have so named because the invention comes from the stories of Demetrios) we never invade the privacy of another with suggestions of how he ought to be doing things this way or that way in the character of somebody else. Yes, your novelist ran on several steps ahead,

a bratty thing to do. I am sorry. I only started out to say that Toolwarden is no small status, and nobody could have filled the position more excellently over the years than Frankie—who has yet to write his first book: just wait a while.

THE BOAT Garth set himself to build could only be a dignified raft with a sail, a keel, a rudder-sweep, a cabin. Our tools and knowledge offered no way to warp and form the long grand curves of a true ship. It doesn't matter—we knew from the first trials that she would serve. Bosco said she wouldn't float. We launched her, very incomplete, hardly more than a framework platform, to work out a few problems with the steering and the keel, and several times more before Garth was satisfied with the setting of the mast, and she floated nicely, but Bosco wasn't convinced. She wouldn't carry the weight of the cabin, he said, not with all those people.

Bosco's real trouble lay deeper. He just didn't want to gosemplice, not with us anyway. Angus finally took care of it, after the rest of the Company, including Bosco, had wasted considerable time and effort stewing about it—you know, chewing the mahooaha in corners with each other, uptight about hurt feelings, ballywambling around. Angus just sat down by Bosco one evening—it was still warm enough so that we were eating some of our

meals out in the garden—and said: "You don't really want to go west with us, do you, Bosco?"

"To be real fucking honest with you," says Bosco, "it's a fact I don't. But I wouldn't want to let you down."

"Sooner say goodbye than take you where you don't want to go," said Angus, and he added in his gentle no-nonsense way just as if he meant it: "We'll miss you naturally."

Maybe he did mean it. Maybe it takes a Ristacrat to lay on just enough butter, never too much, so you're never sure it's butter at all. He never buttcred up Demetrios of course, because he loved him, nor me because he knew I'd have been aware of it. He may have laid it on slightly now and then with quick-tempered Nod, to simmer him down, and with Garth (slower of wit but thin-skinned) for no reason except that he loved to make Garth feel good—name me a better reason and you can have it.

"Since you put it thataway," said Bosco, "and with no hard feelings, I believe I better split. See, it's this thing about Gammo's Ramblers. If they went west a ways from that town T.S. spoke of, they wouldn't've gone far west. Ocean and wilderness don't draw no Ramblers, account they want to find a crowd in between ramblings, sell a few things, have some fun. And anyway it's kind of on me to find Boss Gammo. I don't care so

much about he might've been my Pa, but the thing of it is I owe him a licking. Even if he's past seventy-something when I catch up with him he'll still be meaner'n a cat-turd, and I'll have to give him—well, a little one. Not, of course, if he can't stand up."

So early next morning Bosco made his farewells, with small gifts from everyone, and the bow Garth had made for him, and new deer-hide sandals cut and thonged by Nod's hands, and so forth—we all chipped in. While the rest were occupied with good wishes and flapdoodle I whispered to Frankie to go look at the tools, which he did, and came back to say everything was in place, what was the matter?—in fact he was annoyed with me, for all he loved me so much and still does. (*Oh, now it's out.*) "What was you thinking of, Wynken?" says my Frankie, my Brains of the Outfit. (*But not through your cleverness: through mine, mine.*) "Aye-well," I told him. "I was just wondering."

Not until evening, when Bosco was long gone into the wilderness on his way back to his own kind of life, did Angus miss his wrist-watch.

"I MUST HAVE left it on the Billy-Rock when I went swimming yesterday," said Angus, knowing himself he was never that careless. For we had a little beach, sand-drifted for us by that lazy-seeming

ocean, and Angus still liked to run in for a dip after the air had grown too sharp for the rest of us. Near the margin of the beach a statue of some gentleman named William Penn had fallen over or been pushed; it was earthquake country. The old boy now lies gazing at the sky in benignant perplexity.

I went with Angus to help him look. He ran his hand over the pedestal, I poked around here and there; when we gave it up he sat down and laughed. "Oh, that damned roly-poly bastard!" he said, and laughed some more, but he was doing it to hide the fact that he was crying—Angus weeps rather easily; I believe it's better than leaving frustrated unhappiness to fester—and I knew it was because Demetrios that afternoon had let slip an unintentional word during an attack of his sickness. It meant, or at least Angus took it to mean, that Demetrios didn't think he'd live to sail with us when the boat was ready.

"He's had a life," I said, "in two worlds, and there's been pleasure in it."

"You do see into me." (Well, human nature is my country—I have to look where I'm going.) Then Angus struck his knee in misery. "Two worlds—why not three? Why can't he live to glimpse the third world he wants for us, the republic? It's his dream, the rest of us are only groping after his meaning—except maybe you."

"Are you looking for justice in nature?"

"I suppose I was," he said, and his weeping ceased. "He said, you know—it was when the pain had let us, but he was exhausted, near sleep I think, maybe didn't know I was still sitting by him—he muttered something about the Moses principle."

"Maybe he only meant that all prophets are like Moses, because the promised land always stays somewhere just ahead." He didn't answer me, but took my hand and held it against his throat, a way he had, so that I felt his good blood beating there. "The promised land, when we get to ours, will have a few headaches."

"Don't I know, love? But he would enjoy dealing with them. He would like to see—ah, I'm going in for a dip." He jumped up and shrugged off his clothes. "Come with me?"

It was too cold, but I did anyway—because he's such a dear hunk of boy, I suppose, with his red-brown hair and his build like a Raphael angel, and I didn't want to leave him. We plunged, and swam a while, and dried in the breeze, and made love. Only in the ways Angus allowed us, because he was afraid for me.

It's true enough a midget would be taking a chance, with no surgeon around to do a Caesarean. Yet I had an easy delivery with Nod's baby—it was sickness that took

her—and I was facing almost the same risk in that pregnancy, for we're told midgets don't breed true. But Nod and I are not proportionately short-legged and big-headed: couldn't we be something a little bit new? I wish it were so—and didn't Demetrios himself, on a later afternoon during one of his remissions, say that he wished the Republic might have many people like Nod and me? And didn't we at once fall to designing houses in our heads where big and little could live together and both be comfortable?

She was a very tiny thing, my baby who lived three months, all in such perfect proportion—

I had milk for her, in plenty. Diphtheria killed her—one of the diseases conquered in the old time that will not come again.

Nod's wildness is beautiful and strikes a spark in me, but I am partial to gentleness too. Angus is sweet. Eve who had been Solitaire smiled on us without malice out of her young maternity when we went back to the house, quieter and comforted.

THROUGH the early winter we toiled at our vessel under Garth's direction. Winter comes to southern Penn, if that is where we were, only as a chilling of the air for a few months, with seldom a killing frost such as we expected in Lowelltown for December and January. Long rains fall, almost never snow. We were puzzled, what to use for a

sail; Demetrios warned us the woolen blankets would be no good, holding damp instead of shedding it. We thought of sending a party back along our trail to the last town we had passed, to buy linen cloth; but it had been a mean, small place, likely with nothing to offer, and Angus was not minded to divide the Company.

Angus himself would not leave Demetrios. He had promised a certain service to his friend that no one else could or should perform. He trusted me with the knowledge of it; since he has given me leave to write it, the others will learn (perhaps without much surprise) when they read what I have set down here, so much later.

As for the sail, we patched our garments together, and cut up the blankets for such small rags of clothing as we might want from time to time. The cabin of the boat was sound enough to hold in our warmth and give us shelter; we would probably be sailing into a region of tropical warmth. We all like nakedness, and we here young.

The Professor—(young? well, yes, really, in all that matters)—spent most of his time with our friend, studying his face while the lute made music for him, knowing (often without a word from Demetrios) what mood of music the sick man's mind might prefer to follow. He would shift suddenly from joy to sorrow, or the other way, or from simplicity into a counterpoint so

subtle that Demetrios would frown with delight in going along with it—all this in response to some message from Demetrios that we had missed. And whatever the shift of mood, Demetrios would nod with satisfaction, and share the journey until the pain struck again destroying the chance of pleasure.

I have not heart nor wish to write of Demetrios' sufferings nor of the thousand indignities that attend a long dying, except to say: he endured them, until the time came when he could tell his beloved that he wished to endure them no more. He did speak once, placidly but with some contempt, of the Old-Time habits of pawky euphemism, of wrapping its human stuff in a bundle of comfort against the facts of death and suffering and finality. And once, when Garth and Frankie and the Professor and I were with him, he said: "I have nothing intricate to tell you about death. Death is necessary, like birth; dying is unpleasant, also unimportant. Except for such truisms, such small obvious bits of comment—why, there's just nothing worth saying about it: it is life that speaks. Play us a little Mozart, Professor—he was a good cheerful joe who knew how to cry."

There came a warm day of March when by unspoken agreement we left Angus alone with him, and lingered outside the house, sometimes looking at our finished boat where she tugged at the

anchor bespoken by an easterly breeze.

You may be wondering certain things. I am writing in the year when Demetrios' dark-haired daughter, Eve's daughter, is seven years old. My sister's girl was born two days later; she is fair and bouncing, and small like Nod and me.

As I hinted some long time ago, I returned for a visit to the eastern nations. I traveled in safety, with Garth and a much bigger Frankie. We had a few days in Nuber. Mam Estelle was dead. Babette came back with us, with the Diary, Shawn's pictures, a few other bits of valued loot. It was good to return; it is good to discover the end of this book, and turn my thoughts to other affairs. It will be evening presently, and Eve's daughter Miranda will go to chasing fireflies.

Out there watching the inland sea, we felt no need of saying goodbye, for each time we had been with Demetrios lately it had been a goodbye; he knew it. In an hour, or two, Angus came out of the house and sat on the ground, and when Eve went to him he lifted a handful of earth and let it flow through his fingers.

Afterward he told me how Demetrios had asked after each of us in turn, whether we were of good heart and right with ourselves. "And then he told me," said

Angus, "that pain had won, over the enjoyment of living, and so it was time for what we had agreed on. And he said—how could this be, Wynken?—he said that in our short time together he had known more delight of body and mind than he supposed most men ever crowd into a lifetime. Can such a thing be true, Wynken?" he asked me, as if I knew. I don't know in how many senses it can be true. But I think, and I told Angus, that it was certainly the aspect of truth that Demetrios was accepting.

Then Angus had kissed his friend, and placed a cushion over his face and held him fast until it was over, because this was the manner of death that Demetrios had requested, saying there would be no distress in it under Angus' hands, and wishing that Angus might later be free to tell us the whole truth of it or not, as he saw fit.

We had thought to give him a sea burial. But Garth's good boat carried us more swiftly than we expected to that island we had watched from the mainland. It was lonely and small, a patch of innocent wilderness. Not a place for the republic, but we could pause there, before sailing on to find the island we would name Peranelios, where this part of the story ends. And it suited our hearts to bury Demetrios' body there, near a wild grape that would accept it and bear fruit each season in the sun. ★

THE TWIST



TIM ALTOM

Where the checkerboard goes on and on . . .

Life in the Twist ain't hard. I mean, there's lots of other Twists, but somehow, when you've lived someplace for a long time, years maybe, you get to call it "the" when you talk about it. I been here since '01, year of the riots. I didn't get involved in no riots, though. That ain't my style. It's kinda funny, but I got caught and put in the Twist after I gave the scientists and politicians the way to make it. Pete, see . . . Pete's a scientist frienda mine . . . he wanted a gizmo called a dimensular unit for some invention. He hired me to steal it, 'cause the guys who owned it wouldn't sell him one. It figures they wouldn't. They're scientists, like Pete, but lots more chicken-shit.

Pete was a guy who experimented a lot with electricity. He was a real nut, used to cut holes in his apartment walls to put boxes of stuff in when he ran out of room on the floor. One time a guy sneaked in and stole some of the stuff. Pete damn near had an attack. I never saw a guy more interested in making money, either. He told me

he could make a million bucks with his new invention. He said it would move things around by dissolving 'em and shooting 'em someplace else; kind of like radio, though not quite. I took a year of math in high school but it didn't help much when he started getting real deep in the stuff, trying to explain it. Pete once told me he was kicked outta science on account of he blew up somebody's lab trying to find perpetual motion. Said he could do about anything he wanted, if he had the stuff to do it with. He told me too that the thing he wanted for his invention would have to be lifted from the inside and that all the labs in the country knew him and wouldn't hire him to strip wires. So he needed me to lift the dimensular unit for him, and we'd split the millions, fifty-fifty.

Really, I don't have no regrets about it anymore. I mean, I used to steal things for a living. I used to have junk taken by teachers clear back in grade school. They'd lock it up in closets and I'd have it inside of an hour. It shouldn't'a been any hassle and it wouldn't'a been if I

hadn't been so dumb. It wasn't Pete's fault I got caught. He filled his side all right. He got me the job and all. No, I fouled it up.

FIRST day at work. I had my little badge, my company-issue uniform, my smile, and I was ready for work. I always had a hard time, first days at work. That's why I never worked legal for very long. I never could get used to any kind of janitor work, which was about all I could do that wasn't making license plates or picking locks. Dimensions, Incorporated hired me to be a Third-Class Sanitation Engineer. That means janitor. I just swept floors and mopped 'em at night. And only the hall floors at that. They wouldn't even let me change a light bulb in a lab or an office when I first started. They kept everything important locked up most'a the time. But I was happy doing hall floors. Office floors always made me nervous, they took me back to state.

The State Penatentiary. I put in twelve years there. Twelve long, stinking years with nothing to show for it except I got grey hair. I stayed in a cell with three other guys, a cell about as big as one of them business offices. I hear that businessmen sometimes complain about the size of their offices. I wonder how they'd feel if they had to share it with four bunks, three guys, and a toilet. I was only supposed to do

seven years but I busted out and got caught. That added five years, no parole. I almost busted out again, but somebody told the screws and they had me put in solitary. There ain't no escape from there. My solitary cell was even smaller than my regular one. It leaked cold air in the winter and made you sweat off five pounds every day in the summer. And it stank. Oh, Lord, did it stink. Anyway, that's why I don't like offices. When I'm in one long enough the chairs and desks and things start to disappear and the walls melt into bars. I start hearing the screws yelling down the line and smell the piss and sweat. Pretty soon I'm crawling on the walls, sweating and cussing, and trying to find the doorknob. When I do I'll yank the door open and fall outside, screaming and running. At least when I'm in the halls that don't happen.

You might think a big company might not want cons on their payrolls, which is what I thought. But then I found out that Dimensions likes to have cons work for them, doing janitor work and such. They say it gives a fellow human-being a new lease on life; like it allows a guy to remake himself. But every con in there knows sure as people make' prisons that the real reason is to make the scientists feel good. Scientists are all a little off, and a lot of 'em feel like they passed up a lot'a life by going to school so long and then having to stay in labs all

their lives. So Dimensions hires cons to scrub floors and pull gum off a chairs. Scientists leave gum on chairs, too.

I used to think of us cons as the guys taking care of a machine. The machine really didn't do much of anything useful, but it had to be taken care of. We oiled it and polished it and replaced its cogs and gears when they got loose or busted. We scrubbed the rust off and cleaned out the dust. We kept the people machine running smooth.

I've seen what bad upkeep can do to a machine. Once, in the pen, we had a machine blow up 'cause it wasn't taken care of right. I mean it really blew up, killed the guy working it. It curled smoke for awhile but nobody noticed or cared. Then funny noises came out of it, like dozens of ball bearings were suddenly loose inside and shooting around from part to part and making one hell of a racket. Then a huge crack spread down the front and the machine's guts came out. The guy working the controls screamed a couple'a times, but you couldn't see him for the flying metal shavings and bits of springs and wires. After it was all over, and we used fire extinguishers on the little electrical fires, we couldn't even find anything that we could be sure was really him. He was all burned and cut and mixed in pretty well with all the metal parts that used to belong to the machine. It

was funny, I think. He must'a thought he had that machine right where he wanted it. And it blew up on him, grinding him up and spitting him out.

Pete said all I had to do was work at Dimensions for awhile, until they let me into the labs. That's where they kept their important parts to the inventions, because the labs are the cleanest rooms in the building. During the day nobody was allowed in except the technicians. At night, though, they had to let somebody in to clean up what the automatics can't. Stuff up the size of a gnat's ass could be sucked out'a the air, but bigger stuff had to be cleaned up by Sanitation Engineers. The guards might'a done it, but their agreement with the company wouldn't let 'em. Pete gave me a little meter that he said would find radioactivity. He showed me how to set it, where the needle would go when the meter found the unit, and how to hide it so the guard wouldn't find it. I had a rolling cart Dimensions gave me to work with. It had an old floor wax can on the end that had soap powder in it. Pete said I could hide the meter in the soap and the metal detector wouldn't know it was there. I'd do the same with the unit when I found it, after wrapping it up in lead foil so I could get in past the radiation detector outside the door. We went over the heist until I said we couldn't foul up, no way.

I had the late shift, starting at

eight o'clock. I rolled my cart down the hall, passing the two-colored squares on the floor. They were black and white and looked like a big checkerboard. They reminded me of my cell, too, except that floor was black-and-white because the cement floor was chipped in some places and dirty in others.

The guard on duty was a friend'a mind, sort'a. He liked me so I knew he wouldn't work too hard checking me over. I rolled the cart into the little room in front where you're cleaned of dust by a hard blast of raw air. Burt, the guard, nosed around the cart while me and the cart were being scrubbed. He looked into the soap bin, but didn't stop. He lifted a couple'a things, sniffed, and said to go ahead. The far door slid open, I pushed my cart through, and I was in the lab.

I thought it'd be dark in there, but it wasn't. Maybe they kept it lit up for insurance. I could see Burt's head through the emergency door, beside the other door connecting onto the cleaning tunnel. He was sitting down, reading a book. The trouble with that was he could see in just by turning his head. I couldn't hang nothing over the door or he'd get suspicious. Suddenly he turned and waved. I waved back and started getting cleaning stuff off'a the cart. I shoved the meter under my shirt, along with my lock-picking tools. I picked up the dry mop and walked over to a wall. I sized the place up

real quick and all of a sudden realized how long it'd take me to pull the job. That lab looked like the operating rooms you see on doctor shows, but a whole lot bigger. All the walls were either chrome or glass-like plastic. The only way to tell what was a cabinet and what wasn't was by looking at the little hairline cracks running down the walls and by the little holes where keys would go. There were long benches strung all over the room with meters and irons and things attached to'em. Except for papers dropped on the floor, the lab was spotless. There wasn't one spot of over-heavy wax on the floor. No fly specks on the ceiling. No burn marks on the benches. You see it? Like the room was created to study what clean really was.

I walked along the walls with my mop, holding the little meter just out in front. I must'a gone around that room five times before that sweet little needle jumped over to the right place. If I'd'a had to go around the place once more I'd probably'a quit. I was shaking real bad, throwing looks every other second at Burt. I looked up again when the needle jumped. Burt looked like he was asleep. I pulled out my tools and got to my real work.

ONCE I was called up from the open to testify before some committee that was studying prisoners and prisons. As far as I know, they

wrote down everything I said and never looked at it again, because I never heard of nothing being done with it. I sat at a table in front of them, wearing a suit. It was the only time I wore a suit the whole twelve years I was in the can. The committee sat a little above me, on a platform. They asked me questions and I answered them. Sometimes one guy looked happy at an answer, and other times another guy would. Sometimes the screws that brought me looked like they'd eaten yellow snow by mistake at some'a the things I said. I told'em too, by God . . . told'em about the noise, and the smells, and about the four bunks and me and three guys and a toilet. I told'em about solitary and the chipped floor and—I told'em every lousy thing I could remember, that's all. And somebody wrote it all down. It didn't make things easy for me when I got back to the pen. Some of the screws who'd been my friends weren't interested in me anymore. But I really didn't care. I was due for release in two weeks. Funny, ain't it? I mean, people all the time yell real loud about reforming prisons but all they ever do is make stronger ones. What those politicians wanted was a prison that was good for speeches but was so strong you couldn't get out of.

I'LL PROBABLY never know why they locked that little box up in that stupid closet. Here was a

gadget worth maybe two million dollars or something and they trust it to a lock a retarded monkey could'a picked. I guess, except for when they're doing science, scientists are stupid all the way around. The unit and meter fit real nice into the soap can along with my tools. I dusted a little more and picked up paper so Burt wouldn't think something was a little strange. Then I signalled him to let me out. He got up and yawned and I took one last look around that room. All that stainless steel and chrome. Plastic, glass, and aluminum. It was all so nice and shiny clean it almost made me cry. I thought about how I'd wanted to get in there so bad . . . worked for it, months on end. If I'd stayed I'd probably have given in to temptation and sneaked in a sledgehammer. The other guys who had worked the labs talked sometimes about what they'd bust first if they had a sledgehammer in there. I knew what I'd have gone for first. There was a big light in the middle of the room, about twenty feet long; and all covered with a wire cage for protection. I'd take a sledge and I'd smash that big cage, smash it and twist it and break it apart. I got so worked up about it I might have done it right then if Burt hadn't opened the lock on the door for me to get out. I pushed the cart through the door, all through the cleaning tunnel, and out the other door. Burt stopped me again and searched a little bit with the metal

detector and the radiation counter. He nodded me on. I was home free.

I was down the hall and around a bend before I let myself laugh. I laughed at Burt and the scientists and Dimensions all at once. I shouldn't have done it, but I pulled the little dimensular unit out of the soap bin and looked at it. It had little dials and switches and jack plugs on its face, a square mirror about as big as a dollar bill. I walked off down the hall, leaving my cart where it was, and tossing the little box into the air. It was my revenge on the scientists, on the screws, and the fat government guys. With it I was bigger than Pete, even. I could sell it to anybody I wanted. But no. That wasn't right. Pete got me the job so I could get the box. He ought to have something.

That's when I tossed it up once too often and a little too far away. It hit the wall, bounced to the tile, and rolled off down the hall. And it hummed. Lord, it hummed loud as a bee hive. I ran after it, picking it up without slowing down. I looked for something that might shut it off, but I didn't have time to look for one thing in all them controls. I tucked it under my arm and ran, hums and all, to the double-doors leading to the offices. They crashed open when I hit them, and glass spilled over the floor in strange flashing colors. My hand was cut pretty bad from one of the busted pieces but I couldn't stop. I kept on

running, pounding in my rubber-soled shoes. Guards looked kind of funny at me, but I was holding my arms across my stomach like I was about to puke. I ran past doors with blurry numbers and office fronts. I went past bulletin boards and light bulb after light bulb. I finally got to the front doors, the ones leading to the street. They opened in but I made them open out. I couldn't wait to get out, into the cool air where I could run on wet cement and run and run . . .

. . . and I was still running on tile, with overhead lighting and double doors in front of me. Wrong turn, I thought, and opened them. Ran on through. Ran by labs and offices and more labs. On checkerboard tile under light bulbs with cages around them. I was starting to get tired, my breath getting sharp. I ran past business rooms and labs and more rooms and more labs and offices and typewriters and telephones and little offices and labs with guards and cages around the lights and then I ran past Burt.

I saw Burt get up but I didn't care. I had to keep going, before the alarm went off and other guards'd come down on me. Burt started after me, looking puzzled. Sweat ran into my eyes and I smacked into something hard with sharp corners that gouged my ribs.

My cart.

I slowed down, walked. I came up on two double doors. Their glass

was sprinkled over the floor. I looked at my hand and saw the red blood still flowing that had already stained half my shirt red. I looked at Burt coming up behind me. I took off, running blind, looking for the outside wall like in one of them mazes guys build for rats. Burt caught up with me and grabbed my arms, but I shook him off. Now there were five or six other guards chasing me. Through the doorway, past more labs and offices, with the theft alarm screaming around me. The loudspeakers were yelling orders and questions one after the other. I didn't see the glass doors to the street the second time, and now I know it was the second time. I almost knocked myself out on the door handle. In the few seconds before the guards reached me, I saw outside the doors that were supposed to lead out. They didn't. I should have been looking out at stars and wet pavement. I was looking at the same landscape I'd passed minutes before. There were little red drops leading away down a corridor that shouldn't have existed and didn't end. For the first time in my life, I was really scared. Not just of getting caught, but of what I could see, something other than the corridor or Burt. It wasn't nothing I could point at, but staring down that hall, the one I'd already run down, I knew I'd never forget that feeling of being frustrated and scared—of trapped places you couldn't never get out

of. Then the guards mobbed me.

THEY found me guilty and sent me back to jail. Life sure is funny, ya know? I mean, if it wasn't for me stealing that dimensional and dropping it so the little jigger inside touched another little jigger they wouldn't'a discovered the Dimensulation Effect. From what they told me, the Twist is something like a thing they call the mobius strip. Someway, when you take a strip of paper and put it together like a tread on a tank, and give it one twist before you put it together, you get a thing called a mobius strip that makes you end up right where you started by walking in any direction. Dimensions, Incorporated builds Twists because they jumped on their rights on the dimensional unit. The Twist is really just a little different from the effect I got caught in inside Dimensions. What happened, sort of, was that the tail of the building connected with the front so I couldn't get out no matter where I went. In the Twist, you can walk down the one hallway and walk right around to where you started. So God help me, for the rest of my life I'll be running down that same hallway past labs and offices and Burt.

Pretty soon they put other guys in with me, and now there's seven of us. We get fed from a little machine set in the wall. It gives us the food on plates made of some kind of milk-colored plastic that dissolves

after twenty minutes or so. Little holes in the walls suck out anything dirty, like the toilet in my old cell. It's a lot better than the one in the lab, even. Spraying nozzles blast the floor to clean up old food or where somebody's pissed. It's easy to look out the windows but there's not much to see. Just another hallway on the other side, same as the one we're in. You can climb through the windows on either side, and be in another hallway like the one you came out of. They have doors up along the hall because they're afraid we'll go crackers seeing a hallway that never ends. So they gave us doors that can't be propped back. You can lock the doors at both sides of a little room you can call your own, but guards have keys and anyway, all you have to do is crawl through a window to land in somebody's bedroom. We can't bust into the walls to get at the machinery, because the walls are made of some real tough plastic. We can't jump the guards because whenever they bring somebody in they always wait until we're asleep. I been in here almost a year, longer than anybody. I used to keep a calendar of scratch marks on the wall but the blasting hoses shot 'em all off.

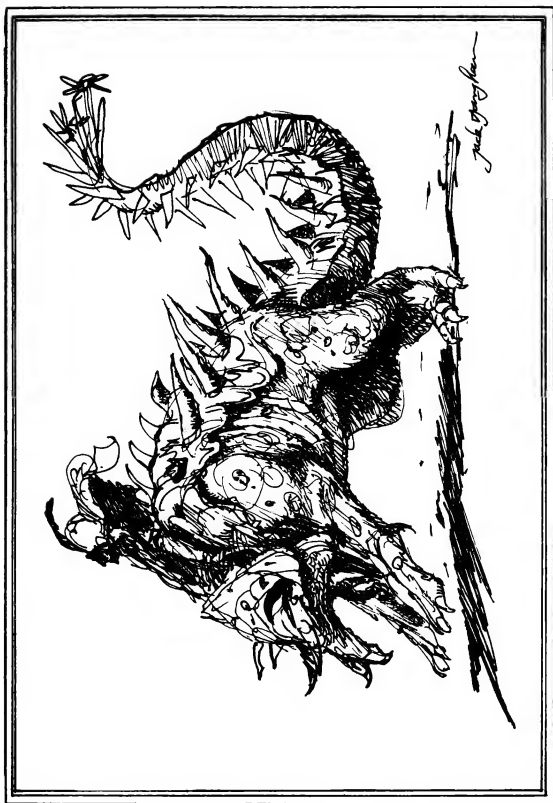
The walls are smooth, like eggshells. That's what the whole Twist reminds me of—an egg. Except we'll never hatch out of it. It's an egg of piss and sweat and death. Nobody in my Twist is a first-timer;

the only people put in here are the ones that've got life sentences. Nobody else in my Twist knows that I made it possible to build one. They'd probably laugh at me if they knew. I only been in here a little over a year, and the only thing that keeps me from going nuts is the room. But that's not enough anymore. I'm starting to get faint whiffs of three other guys and a toilet. I don't know just what I'm going to do when I start climbing walls. Maybe hold my breath until I turn blue and die.

This place is perfect, I guess. The people outside don't have to look at us or pay attention to us. We can't get out. Ever. Sometimes it makes me sore that I did it, gave them the Twist. They probably never would'a found the Effect without me. I gave them politicians what they really wanted and now they've got a prison that's escape-proof and humane at the same time.

It's funny, but we haven't had anybody put in here in a long time. Whenever we used to yell out, we usually got somebody to yell back. They don't yell anymore. I think maybe the people machine blew up, some way, and we were just forgotten. Maybe somebody forgot the oil, or broke a part. I don't suppose whatever happened'll affect us any, though. And so help me they've got tile floors in here. They're checkered, in fact.

Black and White. Funny. ★



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